Accounting choices relating to goodwill impairment: Evidence from Malaysia

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Abstract

This thesis examines the accounting choices related to goodwill impairment exercised by Malaysian listed companies in the first three years of the implementation of FRS 3 *Business Combinations* (i.e. 2006/7 to 2008/9). Three aspects of these accounting choices are examined, i.e. disclosure, measurement, and recognition of goodwill impairment.

This thesis makes four main contributions. Firstly, it shows how the opportunistic behaviour perspective, previously developed and tested by prior studies using data from listed companies in developed economies (reported to have dispersed ownership), helps explain managerial decisions on the measurement of goodwill impairment in the developing economy of Malaysia (documented to have concentrated ownership). Managerial opportunism is normally discussed in prior studies in the context of agency conflict between managers and shareholders in companies with disperse ownership. Because of the high outside ownership concentration found in the Malaysian listed companies, the empirical result of this thesis suggests that most probably the opportunistic behaviour occurs due to an agency conflict between the controlling shareholders (shareholders outside of the companies) and the minority shareholders. Within this conflict, managers would possibly act on behalf of the controlling shareholders at the expense of the minority shareholders.

Secondly, this thesis contributes to research design by developing a disclosure framework. Future researchers could make use of the disclosure framework to identify accounting choices related to goodwill impairment, or to interpret their statistical findings, which this thesis has attempted to do.

Thirdly, this thesis presents new results from the empirical evidence related to factors influencing managerial decisions on the measurement of goodwill impairment by Malaysian listed companies. These factors are: managerial ownership, and two different measures of pre-write-off earnings. These results highlight the need for future studies to incorporate these variables, in order to

provide a more comprehensive model of accounting choices related to goodwill impairment.

Finally, this thesis constructs a research setting which aims to capture evidence of a recognition choice related to reporting zero goodwill impairment exercised by Malaysian listed companies. Testing this setting allows the recognition study to make a contribution, by identifying the motives of companies for recognising zero goodwill impairment, which has received limited attention in prior studies. Information concerning these motives is useful to the relevant regulatory bodies overseeing financial reporting standards on goodwill.

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Abbreviations

BV	Book values of the net assets of companies
CEOs	Chief Executive Officers
CGUs	Cash-generating-units
FASB	US Financial Accounting Standards Board
FPLC	Federation of Public Listed Companies
FRS	Financial Reporting Standard
FRS 136	Malaysian Financial Reporting Standard 136 *Impairment of Assets*
FRS 3	Malaysian Financial Reporting Standard 3 *Business Combinations*
FYE	Financial year-end
GAAP	Generally Accepted Accounting Principles
GWIL(IL)	Reporting goodwill impairment losses
GWIL(0)	Reporting zero goodwill impairment
IAS 36	International Accounting Standard 36 *Impairment of Assets*
IASB	International Accounting Standards Board
IASC	International Accounting Standards Committee
IFRS 3	International Financial Reporting Standard 3 *Business Combinations*
MACPA	Malaysian Association of Certified Public Accountants
MAS 6	Malaysian Accounting Standard 6 *Accounting for Goodwill*
MASB	Malaysian Accounting Standards Board
MASB ED 28	MASB exposure draft on goodwill
MCI	Market capitalisation indication
MIA	Malaysian Institute of Accountants
MV	Market values of companies
UK	United Kingdom
US	United States of America

Appendices within specific chapters

Appendix for the entire thesis

Chapter 1: Introduction

1.1 Introduction

The overall aim of the thesis is to analyse accounting choices related to goodwill impairment exercised by listed companies in Malaysia in the first three years of the implementation of Financial Reporting Standard (FRS) 3 *Business Combinations* (i.e. 2006/7 to 2008/9). In this thesis, accounting choices are identified by the implementation decisions made by managers, in particular, through judgements and estimates employed in performing an impairment test of goodwill (see Section 2.2.1 for a detailed definition of accounting choice applied in this thesis). Three aspects of implementation decisions related to goodwill impairment are analysed, namely, disclosure, measurement, and recognition of goodwill impairment.

Three theoretical papers which are pertinent to the definition of accounting choice adopted in this thesis are Fields et al. (2001), Francis (2001), and Nobes (2006) (see Section 2.2.1). Fields et al. (2001), in their review of accounting choice studies published in the 1990s, defined accounting choice as:

> 'any decision whose primary purpose is to influence (either in form or substance) the output of the accounting system in a particular way, including not only financial statements published in accordance with GAAP [Generally Accepted Accounting Principles], but also tax returns and regulatory filings.'
>
> Fields et al. (2001: 256)

This definition, according to Francis (2001: 311), broadens the scope of accounting choice to include, among others, judgements and estimates required to implement GAAP. In a similar vein, Nobes (2006: 240), in his discussion of the international differences in IFRSs, relating particularly to International Accounting Standard (IAS) 36 *Impairment of Assets*, considers the judgements and estimates employed by managers when undertaking an impairment test of assets (including goodwill), to be 'covert options'.

The consideration of implementation decisions as key elements of accounting choice, discussed by Fields et al. (2001) and Francis (2001: 312), is timely, as the aim of the International Accounting Standards Board (IASB) is 'not to permit choices in the accounting treatment' (IASB, 2006a: Preface to International Financial Reporting Standards, paragraph 13). The IASB's elimination of alternative accounting treatments for a number of the revised financial reporting standards has at least two implications which have a bearing on the accounting choice studies. Firstly, academic researchers should focus less on accounting method choice (Francis, 2001: 313). This is because many of the revised financial reporting standards, which are either issued by the IASB or the Financial Accounting Standard Board (FASB), no longer have an alternative accounting treatment.

Secondly, more research is needed in examining individual accounting items which are known 'to require substantial managerial judgement and to have a significant impact on reported profitability' (Francis, 2001: 314). This is because managers could, when exercising judgement be conveying credible private information about companies to investors (Healy and Wahlen, 1999: 366; Fields et al., 2001: 257). Alternatively, they could be opportunistically be making use of discretion, either for their own self-interest (Fields et al., 2001: 312) or for the interest of the existing shareholders, and possibly at the expense of other contracting parties (Francis, 2001: 312).

1.2 Motivation of the study

Motivated by Francis's call (2001: 314) for further research looking into the implementation decisions of individual accounting items, this thesis seeks to analyse accounting choices related to goodwill impairment exercised by Malaysian listed companies.

Goodwill impairment represents an interesting area of research because in implementing FRS 3 *Business Combinations* and FRS 136 *Impairment of Assets* (similar to IAS 36), managers are required to apply judgements and estimates, especially when performing an impairment test of goodwill (see Section 4.4 for detail). The judgements applied would determine whether an impairment loss

needed to be recognised (IASB, 2006b: IAS 36, Basis for Conclusions, BCZ24) (see Section 4.3). At the same time, two IASB Board members argued that the impairment test itself has not yet met the requirement of a 'rigorous and operational impairment test' (IASB, 2006b: IAS 36, Basis for Conclusions, Dissenting opinions, DO3; IFRS 3, Basis for Conclusions, DO14 - see Section 4.5). Given that an impairment loss of goodwill directly affects a company's net income, the reliance on the impairment-only approach as a way of ensuring that the carrying amount of goodwill reported on the balance sheet does not exceed its recoverable amount, without the existence of a strong control mechanism for the impairment test, imposed within the standard, may create an avenue for managers to manipulate the impairment loss if they have explicit incentives (via contractual agreements) or implicit incentives to do so.

Malaysia provides a unique setting for testing the theories of accounting choice related to goodwill impairment for two main reasons. Firstly, listed companies in Malaysia are documented to have concentrated ownership (see Section 3.4). The concentrated ownership is also found in other East Asian countries such as Thailand and Indonesia (Leuz et al., 2003: 516). On the other hand, listed companies in developed economies, in particular, the United States (US) and the United Kingdom (UK), are said to have dispersed ownership (Leuz et al., 2003: 507). For example, Leuz et al. (2003: 516-517) reported that during their period of study (i.e. from 1990 to 1999), the median shareholding of the largest three shareholders of listed companies in Malaysia was 52% while for the UK and the US it was 15% and 12% respectively (see Section 3.4).

With different features of ownership structure observed among Malaysian listed companies compared to those in developed economies, such as the US and UK, the nature of agency problem which exists in these Malaysian companies might also differ (see Section 2.3.3). Shleifer and Vishny (1997: 754) reason that compared to companies with disperse ownership, companies with concentrated ownership might face fewer agency problems arising from the separation of ownership and management. Fan and Wong (2002: 405), however, argue that when shareholders obtain a substantial portion of company shares, to the point at which they acquire an effective control of the company, the nature of agency problem shifts. Instead of a conflict of interest between managers and

shareholders, the conflict is between controlling owners and minority shareholders (Fan and Wong, 2002: 405). Thus, the potentially different nature of the agency problem in companies with concentrated ownership may affect the applicability of the contracting perspective and the opportunistic behaviour perspective, which rely on the agency theory model as developed by Jensen and Meckling (1976).

Thus far, the contracting perspective and the opportunistic behaviour perspective have been tested by prior studies examining goodwill impairment by listed companies located in developed economies which have dispersed ownership, such as the US (e.g. Beatty and Weber, 2006; Guler, 2007; Zang, 2008), Canada (i.e. Lapointe-Antunes et al., 2008), and the UK (i.e. AbuGhazaleh et al., 2011) (see Section 2.2.2). To the researcher's knowledge, there exists no comprehensive study of goodwill impairment testing the two perspectives of accounting choice in listed companies located in developing economies[1]. By focusing on listed companies in Malaysia, as an example of listed companies in a developing economy, this thesis provides an opportunity to test the contracting perspective and the opportunistic behaviour perspective in a new institutional setting hitherto unexplored by prior studies analysing goodwill impairment.

The second motivation for studying Malaysian listed companies is because of the country's specific history of accounting for goodwill (see Section 3.2.4). Since the 1970s, the Malaysian standard setter has struggled to come up with an accounting standard on goodwill (Susela, 1999: 359). Large corporations objected to the publication of an accounting standard on goodwill (Susela, 1999: 370), basing these objections on, for example, the socio-economic consequences of the standard. In addition, there was a lack of acceptance of the standard by the business community (Susela, 1999: 375 and 379). Their objections reached the point of them lobbying the Ministry of Finance to defer the standard (Susela, 1996: 338). Only when FRS 3 was implemented in 2006 did listed companies in Malaysia have a specific accounting standard on goodwill. Malaysia's history of resisting an accounting standard on goodwill based on its

[1] There is one conference paper, i.e. Omar and Mohd-Saleh (2011) which has tested the applicability of the two perspectives in explaining the recognition of goodwill impairment by Malaysian listed companies (see Section 2.2.2 for detail).

suitability raises the question of whether companies are following the standard in good faith or whether they are taking advantage of the covert options available to managers during an impairment test of goodwill in order to get the desired result.

1.3 Research objectives and questions

As noted in Section 1.1, the overall aim of the thesis is to analyse accounting choices related to goodwill impairment exercised by listed companies in Malaysia in the first three years of the implementation of FRS 3 *Business Combinations* (i.e. 2006/7 to 2008/9). In line with the motivation of the study - which is to test both the contracting perspective and the opportunistic behaviour perspective in a new institutional setting (see Section 1.2), the following theoretical and specific research objectives have been formulated.

Table 1.1: Summary of research objectives

Theoretical research objective		
1.	To assess the applicability of theories of accounting choice in explaining the implementation decisions related to goodwill impairment by Malaysian listed companies.	
Specific research objectives		**Empirical chapters**
2.	To explore, via the annual reports of companies, types of accounting choice related to goodwill impairment exercised by Malaysian listed companies after the implementation of FRS 3.	Disclosure study – Chapter 7
3.	To analyse factors influencing managers' decisions when determining the magnitude of goodwill impairment losses divided by prior year total assets (including goodwill), and zero otherwise reported on the income statement.	Measurement study - Chapter 8
4.	To analyse factors influencing the recognition choice related to reporting zero goodwill impairment exercised by Malaysian listed companies in a situation where companies' market values are lower than the book values of their net assets for three consecutive years.	Recognition study - Chapter 9

Table 1.2 maps the research questions with the relevant research objectives and empirical chapters. The next section discusses the summary of research design for each of the empirical chapters.

Table 1.2: Research questions and their link to research objectives as well as empirical chapters

Research questions		**Link to objectives**	**Empirical chapters**
Theoretical research question			
Research Question 1:	How can an investigation of FRS 3, focusing on goodwill impairment by Malaysian listed companies, contribute to the theories of accounting choice?	Objective 1	8 - Measurement study and 9 - Recognition study
Specific research questions			
Research Question 2:	To what extent is the market capitalisation indication (i.e. companies' market values lower than the book values of their net assets at the balance sheet date) an appropriate proxy for an indication that goodwill may be impaired?	Objective 2	7 - Disclosure study
Research Question 3:	What are the types of accounting choice related to goodwill impairment exercised by Malaysian listed companies which can be identified through detailed analysis of annual reports?		
Research Question 4:	To what extent do the decisions of Malaysian listed companies in measuring goodwill impairment indicate that they reflect the underlying economic values of cash-generating-units containing goodwill?	Objective 3	8 - Measurement study
Research Question 5:	To what extent do the decisions of Malaysian listed companies in measuring goodwill impairment support the contracting perspective?		
Research Question 6:	To what extent do the decisions of Malaysian listed companies in measuring goodwill impairment support the opportunistic behaviour perspective?		

Table 1.2 (continue): Research questions and their link to research objectives as well as empirical chapters

Specific research questions		Link to objectives	Empirical chapters
Research Question 7:	To what extent do the decisions of Malaysian listed companies in measuring goodwill impairment indicate that they reflect companies' ownership structures?	Objective 3	8 - Measurement study
Research Question 8:	To what extent do the decisions of Malaysian listed companies in measuring goodwill impairment indicate that they reflect the discretion available in FRS 136 *Impairment of Assets*?		
Research Question 9:	To what extent does the recognition choice[1] related to reporting zero goodwill impairment exercised by Malaysian listed companies reflect the underlying economic values of cash-generating-units containing goodwill?	Objective 4	9 - Recognition study
Research Question 10:	To what extent does the recognition choice related to reporting zero goodwill impairment exercised by Malaysian listed companies support the contracting perspective?		
Research Question 11:	To what extent does the recognition choice related to reporting zero goodwill impairment exercised by Malaysian listed companies support the opportunistic behaviour perspective?		
Research Question 12:	To what extent does the recognition choice related to reporting zero goodwill impairment exercised by Malaysian listed companies indicate that they reflect companies' ownership structures?		

[1] The recognition choice related to reporting zero goodwill impairment focuses on companies which their market values lower than the book values of the net assets for three consecutive years and which reported zero goodwill impairment.

1.4 Summary of research design

Research approach adopted in this thesis is primarily quantitative, in that, it emphasises the quantification in the collection and analysis of data. Because the implementation decisions made by managers in relation to goodwill impairment are not visible or, as Nobes (2006: 239-240) calls them, 'covert options', the disclosure study acts as an initial exploration of accounting choices related to goodwill impairment (see Section 1.4.1). The research then continues with the measurement study (see Section 1.4.2), and ends with the recognition study (see Section 1.4.3).

1.4.1 Disclosure study of goodwill impairment

The aim of the disclosure study is to explore, via the annual reports of companies, types of accounting choice related to goodwill impairment exercised by Malaysian listed companies after the implementation of FRS 3 (see Section 1.3). To achieve this aim, the disclosure study is carried out in two parts.

The first part of the disclosure study aims to examine the appropriateness of the market capitalisation indication as an indication that goodwill may be impaired (see Section 6.5.1). This is undertaken by comparing two types of information, which represent the observed practice vs. the stated explanation. The data compared are: (i) the market capitalisation indication of companies (i.e. where market values are lower than the book values of net assets at the balance sheet date), and (ii) reasons for companies reporting goodwill impairment (both zero, and goodwill impairment losses) disclosed in the Notes to the Financial Statement (see Section 7.2). This comparison has been carried out in two ways. Firstly, it is performed across companies implementing FRS 3 within one year. This covers 294 companies for the financial year ended December 2006 and a further 235 companies for the financial years ended between January and November 2007. Secondly, the comparison has been conducted on the same companies over a period of two years. This includes 258 companies with data

available for financial years ended December 2006 and December 2007 (see Section 6.5.1.1).

The second part of the disclosure study aims to identify types of accounting choice related to goodwill impairment exercised by Malaysian listed companies after the implementation of FRS 3 (see Section 6.5.2). This is conducted using a self-constructed disclosure framework (see Section 6.5.2.2). The disclosure framework takes into account six key items of data: (i) goodwill data, (ii) segment result, (iii) financial performance, (iv) the market capitalisation indication, (v) reasons for reporting goodwill impairment loss disclosed in the Notes to the Financial Statement, and (vi) audit report concerning goodwill (see Figure 6.2 in Section 6.5.2.2). Using the disclosure framework, 20 companies which reported goodwill impairment losses and are categorised into Group 2 (see Section 6.5.1.2) from the result of part one of the disclosure study, will be examined in greater depth (in Sections 7.3 to 7.3.3). The analysis is carried out over several years (depending on the traceability of goodwill impairment losses backward from the write-off year to the acquisition year) (see Section 6.5.2.2).

1.4.2 Measurement study of goodwill impairment

The measurement study examines factors influencing managers' decisions when determining the magnitude of goodwill impairment losses divided by prior year total assets (including goodwill), and zero otherwise reported on the income statement (see Section 1.3). Studies of the measurement of goodwill impairment have until now been conducted using data from countries in developed economies, such as the US (e.g. Beatty and Weber, 2006; Guler, 2007; Zang, 2008), Canada (i.e. Lapointe-Antunes et al, 2008), and the UK (i.e. AbuGhazaleh et al., 2011) (see Section 2.2.2). As noted in Section 1.2, these countries are reported to have dispersed ownership. The measurement study of this thesis, therefore, extends these studies to the developing economy of Malaysia, which has concentrated ownership.

Investigating the measurement of goodwill impairment by Malaysian listed companies, as an example of listed companies in a developing economy, provides an opportunity to test the contracting perspective and the

opportunistic behaviour perspective in a new institutional setting, previously unexplored in prior studies analysing the measurement of goodwill impairment (see Section 1.2). Hence, the result of the measurement study is expected to contribute to the theories of accounting choice by providing support for the opportunistic behaviour perspective and the contracting perspective in explaining the measurement of goodwill impairment by Malaysian listed companies which have concentrated ownership.

The measurement study is carried out on the total population of Malaysian listed companies which implemented FRS 3 in the first three years of the standard taking effect. This includes 1498 firm-years with 369 firm-years reporting goodwill impairment losses and 1129 firm-years reporting zero goodwill impairment from 2006/7 to 2008/9 (see Table 8.1 in Section 8.2.1.1). The dependent variable for the measurement study is the magnitude of goodwill impairment losses divided by prior year total assets (including goodwill), and zero otherwise reported on the income statement (see Table 5.1 in Section 5.2). This dependent variable has four characteristics: (i) a lower limit, which is zero value, (ii) a substantial number of observations which take on the limiting value, (iii) the remaining observations take on a wide range of values above the limit, and (iv) repeated observations. These characteristics lead to the application of random-effects tobit regression model (see Section 6.7.1).

1.4.3 Recognition study of goodwill impairment

The recognition study of goodwill impairment is conducted in an attempt to fill the gap identified by Alciatore et al., (1998: 33), i.e. a need for studies 'to identify and examine firms that have impaired assets but have *not* written them down, or did not write them down in a timely manner' (see Section 2.2.2). In the context of goodwill impairment, the gap identified by Alciatore et al. (1998) is timely as one of the concerns raised by the IASB board members via the dissenting opinion of IAS 36 *Impairment of Assets* is the lack of a rigorous impairment test of goodwill because of the focus of the IASB on preventing excessive goodwill write-offs (see Section 4.5). By undertaking the recognition study, this thesis will be able to identify companies' motives in recognising zero goodwill impairment.

To test the recognition choice related to reporting zero goodwill impairment, all of those companies which have market values below the book values of their net assets for three consecutive years, and which recognise zero goodwill impairment throughout the three years, are selected as a test group (see Section 9.2.1). This group is tested against a control group of companies which experience a similar condition (i.e. market values below the book values of net assets for three consecutive years); but which reported goodwill impairment losses at the end of the third year. To perform the analysis, the test group is coded as one and the control group is coded as zero. The recognition study is carried out on 132 companies (before missing values) of which 96 companies are regarded as the test group and 36 companies are considered as the control group (see Figure 9.3 in Section 9.2.1). Because of the binary nature of the dependent variable, a binary logistic regression is applied in the recognition study (see Section 6.8).

1.5 Research contributions

This thesis meets the four research objectives in the following four main ways.

Firstly, in meeting Research Objective 1, this thesis contributes to the theories of accounting choice. It shows how the opportunistic behaviour perspective, previously developed and tested by prior studies using data from listed companies in developed economies (reported to have dispersed ownership), helps explain managerial decisions on the measurement of goodwill impairment in the developing economy of Malaysia (documented to have concentrated ownership) (see Section 10.4.1.2 for detail). Managerial opportunism is normally discussed in prior studies in the context of agency conflict between managers and shareholders in companies with disperse ownership (see Sections 2.3.2 and 2.3.3). Because of the high outside ownership concentration found in the Malaysian listed companies, the empirical result of this thesis suggests that most probably the opportunistic behaviour occurs due to an agency conflict between the controlling shareholders (shareholders outside of the companies) and the minority shareholders (see Section 10.4.1.2). Within this conflict, managers would possibly act on behalf of the controlling shareholders at the expense of the minority shareholders.

Secondly in meeting Research Objective 2, the disclosure study contributes to the research design by developing a disclosure framework (see Figure 6.2 in Section 6.5.2.2), which aims to explore, via annual reports of companies, types of accounting choice related to goodwill impairment exercised by Malaysian listed companies. Future researchers could make use of the disclosure framework to identify accounting choices related to goodwill impairment, or to interpret their statistical findings, which this thesis has attempted to do (see for e.g. Table 7.3 in Section 7.3.1 and Section 8.12.2 for the application of the disclosure framework).

Thirdly, in meeting Research Objective 3, the measurement study contributes to literature of accounting choices related to goodwill impairment by presenting new results from the empirical evidence related to factors influencing managers' decisions when determining the magnitude of goodwill impairment losses divided by prior year total assets (including goodwill), and zero otherwise reported on the income statement by Malaysian listed companies. These factors are: managerial ownership (see Section 10.4.2.1 for detail), and two different measures of pre-write-off earnings (see Section 10.4.2.2 for detail). These results highlight the need for future studies to incorporate these variables, in order to provide a more comprehensive model of accounting choices related to goodwill impairment.

Finally, in meeting Research Objective 4, the recognition study contributes to the research design by constructing a research setting which aims to capture evidence of a recognition choice related to reporting zero goodwill impairment. Testing this setting allows the recognition study to makes a contribution, by identifying the motives of companies for recognising zero goodwill impairment, which has received limited attention in prior studies (see Section 10.4.3.2 for detail). Information concerning these motives is useful to the relevant regulatory bodies overseeing financial reporting standards on goodwill in Malaysia, such as Malaysian Accounting Standard Board (MASB), Malaysian Securities Commission, and auditors.

The research contributions of this thesis are discussed in detail in Sections 10.4 to 10.4.4.

1.6 Structure of the thesis

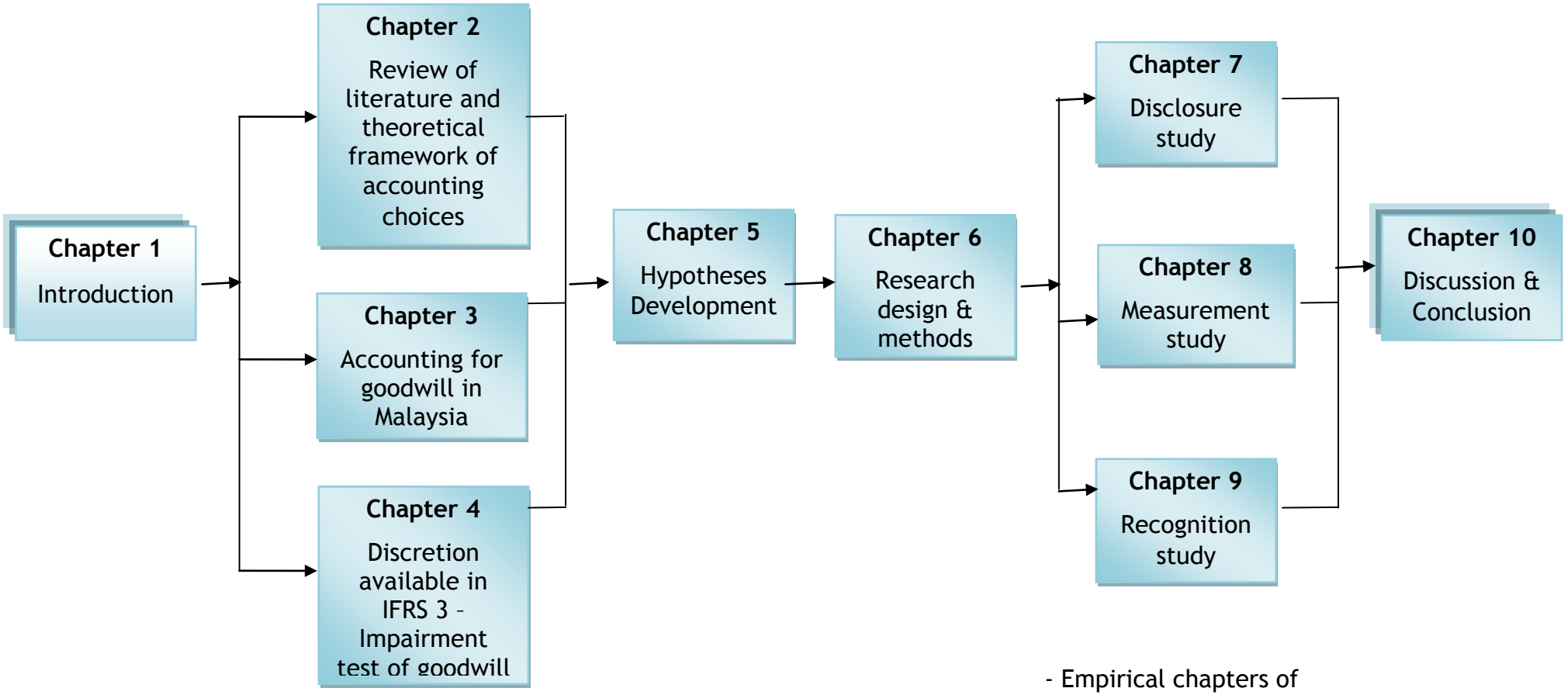
A conceptual map of this thesis is displayed in Figure 1.1. This thesis is structured as follows:

- Chapter 1 (Introduction): The introduction sets out the motivation, research objectives and questions, research design, contributions of the study, and structure of the thesis.
- Chapter 2 (Literature review): The literature review discusses the definitions of accounting choice, the gaps in the literature of prior studies in analysing asset write-offs and goodwill impairment, and companies' motivations for accounting choice. It also discusses the theoretical framework, and the two perspectives of accounting choices to be applied in this thesis.
- Chapters 3-4 (Context of the study): Chapter 3 reviews the history of the development of an accounting standard on goodwill in Malaysia, the regulatory bodies overseeing the compliance with accounting standards, and the ownership structure of Malaysian listed companies. Chapter 4 reviews the requirements of IFRS 3, focusing on indications that an asset (goodwill) may be impaired, judgements and estimates involved in an impairment test of goodwill, and issues surrounding the impairment test of goodwill.
- Chapter 5 (Hypotheses development): This chapter develops hypotheses to test both the measurement and the recognition studies related to goodwill impairment by Malaysian listed companies.
- Chapter 6 (Research design and methods): The chapter describes the total population of Malaysian listed companies which implemented FRS 3[2] from 2006/7 to 2008/9, discusses the process of validating the Datastream source data, and specifies the final number of Malaysian listed companies which are available for the analysis. It also describes the research designs and statistical tests for the three empirical chapters – disclosure, measurement, and recognition study.

[2] FRS 3 *Business Combinations* refers to Malaysian Financial Reporting Standard 3 *Business Combinations* while IFRS 3 refers to the International Financial Reporting Standard 3 *Business Combinations*, issued by the IASB. When a discussion revolves around the exact requirement of the standard, especially when the issues are stated in the Basis for Conclusion (not available in FRS 3), IFRS 3 is applied; when a discussion involves Malaysian environment, FRS 3 is applied.

- Chapters 7-9 (Empirical chapters of the thesis): These three chapters present the empirical findings for the disclosure, measurement, and recognition studies respectively.
- Chapter 10 (Discussion and conclusion): This chapter reviews briefly the achievement of the four research objectives, formulated at the outset of this thesis. It discusses the contributions of the study, explains its limitations, and offers suggestions for future research.

Figure 1.1: Structure of the thesis



Chapter 2: Review of Literature and Theoretical Framework of Accounting Choices

2.1 Introduction

This chapter has two main purposes. Firstly, it reviews the literature on accounting choices. The review covers three key issues; the various definitions of accounting choice, the gaps in the literature of prior studies in analysing asset write-offs and goodwill impairment, and companies' motivations for accounting choice as classified by Fields et al. (2001). Secondly, it discusses the theoretical framework of accounting choices which is applied in this thesis, that is, the agency theory model of Jensen and Meckling (1976). It then continues with the two perspectives of accounting choice which emerge from the agency theory, i.e. the contracting perspective, and the opportunistic behaviour perspective.

This chapter is expected to contribute to the wider thesis in the following five ways. Firstly, the review of definitions of accounting choice (in Section 2.2.1) helps set a boundary on the issue of accounting choices related to goodwill impairment examined in this thesis. Thus, the review contributes to the formulation of the research objectives in Chapter 1 (see Section 1.3). Secondly, the review of prior studies analysing asset write-offs and goodwill impairment (in Section 2.2.2) highlights gaps in the literature, which this thesis attempts to bridge. Thirdly, the review of companies' motivations for accounting choice as classified by Fields et al. (2001) (in Section 2.2.3) helps in identifying the appropriate theoretical framework of accounting choice to be applied in this thesis. Fourthly, the review of the contracting perspective (in Section 2.3.1) and the opportunistic behaviour perspective (in Section 2.3.2) set expectations for the development of hypotheses in Chapter 5. Finally, the review of agency theory (in Section 2.3) and its evaluation in the context of listed companies in the developing economy of Malaysia (in Section 2.3.3) highlight the nature of agency problem that may exist in companies with concentrated ownership, which may have an influenced on the applicability of the contracting perspective and the opportunistic behaviour

perspective. The review also generates ideas concerning the ownership structures of companies, which will be further explored in Chapter 5, upon development of the hypotheses.

This chapter is structured into four main sections, including the introduction. Section 2.2 reviews the literature on accounting choices. Section 2.3 continues with a review and discussion of the theoretical framework of accounting choice applied in this thesis. Section 2.4 summarises and concludes the chapter.

2.2 Review of literature on accounting choices

The review of literature on accounting choices helps to define the scope of the study (see Section 2.2.1), identifies gaps in the literature (see Section 2.2.2), and presents an overall picture of the motivations of companies in exercising accounting choice (see Section 2.2.3). Thereafter (in Section 2.3) the relevant perspectives of accounting choice to be applied in this thesis are specified.

2.2.1 Definitions of accounting choice

Three definitions of accounting choice offered in the literature are:

> '[Accounting] policy choices in financial reporting — situations in which one reporting method enables the user to convert easily to the alternative method'
>
> (Carter, 1981: 109-110)

> 'Accounting choice includes the firm manager's choice of one accounting method over another. An example is the manager's choice of straight-line depreciation rather than accelerated depreciation. Accounting choice also includes the FASB's choice of accounting standards.'
>
> (Watts, 1992: 235)

> ‘An accounting choice is any decision whose primary purpose is to influence (either in form or substance) the output of the accounting system in a particular way, including not only financial statements published in accordance with GAAP [Generally Accepted Accounting Principles], but also tax returns and regulatory filings.’
>
> (Fields et al. 2001: 256)

Other academics (e.g. Warfields et al., 1995: 63; DeFond and Jiambalvo, 1994: 149), although not providing an explicit definition, have described the accounting choice in terms of the discretionary portion of total accruals applied by managers. For example, Warfield et al. (1995) explained:

> ‘We concentrate on accounting accruals, or more specifically the discretionary portion of total accruals, as reflective of managers’ accounting choices.’
>
> (Warfields et al., 1995: 63)

DeFond and Jiambalvo (1994) exemplified:

> ‘Estimates of bad debt expense, estimates of inventory obsolescence, and timing of sales are examples of management choices reflected in accruals.’
>
> (DeFond and Jiambalvo, 1994: 149)

All of these definitions share a common feature, that is, they emphasise the discretion exercised by the managers. The discretion could be directly observed such as choosing between the accounting methods available to their companies. Alternatively, it could be indirectly identified through the accounting estimates made by the managers in applying a particular accounting procedure. As expressed by McNichols and Wilson (1988):

> ‘[M]anagement can exercise discretion through accounting method choice, through operating, investing, and financing policies, and through choice of estimates for a given accounting method.’
>
> (McNichols and Wilson, 1988: 2)

Compared to other definitions, the definition offered by Fields et al. (2001) is comprehensive. In reviewing their work, Francis (2001) considers the

definition to be wide-ranging, in the sense that it includes a number of choices examined by prior studies. She elaborates that:

> 'The definition includes: choices among equally acceptable rules (what I term ''hard'' accounting choices, such as selecting LIFO versus FIFO for inventory valuation or choosing .....); judgments and estimates required to implement generally accepted accounting rules (for example, the estimated service life of long-lived assets or …….); disclosure decisions (such as the amount of detail provided in the description of accounting policies); timing decisions (such as …….); lobbying activities (such as ……); choices about display (e.g., ……); aggregation decisions (such as the extent to which components of income are displayed as separate line items); classification decisions (e.g., ……); decisions to structure transactions in certain ways to achieve a desired accounting outcome (for example, …….); and real production and investment decisions (such as ……).'
>
> (Francis, 2001: 310-311)

Of the many types of accounting choice outlined by Francis (2001), two are analysed in this thesis. These are: judgements and estimates employed by managers in performing an impairment test of goodwill, and detailed information on goodwill impairment disclosed in the Notes to the Financial Statement. These two types of accounting choice lead to three aspects of goodwill impairment to be examined in this thesis. These are disclosure (see Chapter 7), measurement (see Chapter 8), and recognition (see Chapter 9) of goodwill impairment.

According to Francis (2001: 309 and 313), in providing the definition of accounting choice, Fields et al. (2001) consider 'implementation decisions' to be part of an accounting choice. Francis (2001: 312-313) views such a definition as consistent with the focus of the regulators in the US. Accordingly, she (p. 312) sees the effort as creating more opportunities for future research in the field of accounting choice. It is also the researcher's view that these opportunities could be extended to other researchers who are interested in investigating companies located outside the US which implement

IFRSs. This is because the aim of the IASB is 'not to permit choices in the accounting treatment' (IASB 2006a: Preface to International Financial Reporting Standards, paragraph 13). Should this aim be achieved, the implication is that there would be no accounting method choice. Therefore, by considering the implementation decisions as part of accounting choice, Fields et al. (2001) paved the way for researchers interested in analysing companies which implemented IFRSs.

The definition of accounting choice that this thesis builds upon is that of Fields et al. (2001: 256). As noted earlier in Section 2.2.1, Fields et al. (2001: 256) define accounting choice as:

> 'An accounting choice is any decision whose primary purpose is to influence (either in form or substance) the output of the accounting system in a particular way, including not only financial statements published in accordance with GAAP, but also tax returns and regulatory filings.'
>
> (Fields et al. 2001: 256)

Because the definition of accounting choice offered by Fields et al. (2001) is too broad for a single research project, four terms offered by Fields et al. (2001) in their definition (as underlined by the researcher above) require further explanation and contextualisation. The contextualisation is essential as it confines the scope of the issue of goodwill impairment examined in this thesis.

Firstly, the term any decision, in this research should be interpreted as referring to decisions made by managers of Malaysian listed companies in implementing FRS 3, focusing specifically on goodwill impairment. As noted earlier in this section, three aspects of implementation decisions are examined, namely, disclosure, measurement, and recognition of goodwill impairment. These implementation decisions cannot be observed directly, in the sense that companies do not have a choice, for example, to measure or not to measure goodwill impairment losses. Rather, the implementation decisions represent indirect options, or as Nobes (2006: 240) refers to them 'covert options', which are available to managers via judgements and estimates employed while performing an impairment test of goodwill. These

'covert options' allow the managers to make decisions when reporting goodwill impairment losses (see Sections 4.4.2). As an example, in performing an impairment test of goodwill, managers can be selective in the discount rates employed in estimating the recoverable amount of cash-generating-units containing goodwill so that they will be able to report goodwill impairment losses (see Section 5.8.2.1). Alternatively, the managers could decide to allocate goodwill to high growth cash-generating-units and thus report zero goodwill impairment (see Section 5.8.1).

Secondly, the term primary purpose refers to companies' motives in reporting goodwill impairment losses, or in reporting zero goodwill impairment. Because the motives cannot be observed directly, they will be hypothesised based on the contracting perspective (see Section 2.3.1) and the opportunistic behaviour perspective (see Section 2.3.2). Among the potential motives for reporting goodwill impairment losses, hypothesised in this thesis, are Chief Executive Officers (CEOs) (both existing and incoming) attempting to provide a signal that past problems have been addressed (see Section 5.6.3), to smooth earnings (see Section 5.6.4), and new CEOs attempting to reduce the benchmark against which their future performance will be judged (see Section 5.6.1). Potential motives for reporting zero goodwill impairment are the concerns of CEOs for their reputation (see Section 5.6.2), and managers attempting to avoid debt covenant violations (see Section 5.5).

Thirdly, because reporting goodwill impairment losses has an impact on companies' earnings, the term to influence (either in form or substance) the output of the accounting system refers mainly to managers' attempts to influence company earnings reported in the income statement.

Fourthly, the investigation of implementation decisions is confined to financial statements published in accordance with GAAP. It does not take into accounts tax returns and regulatory filings.

2.2.2 Gaps in the literature of prior studies in analysing asset write-offs and goodwill impairment

The literature of asset write-offs emerged in the 1980s and focused on US listed companies (e.g. Strong and Meyer, 1987; Elliot and Shaw, 1988; Zucca and Campbell, 1992; Francis et al., 1996). In the 1980s and 1990s, prior studies of asset write-offs hypothesise the motives of companies for taking asset write-offs (e.g. Strong and Meyer, 1987; Zucca and Campbell, 1992; Francis et al., 1996), or for taking large write-offs (e.g. Elliot and Shaw, 1988). In their review of prior studies analysing asset write-offs of US and Australian listed companies between 1987 and 1998, Alciatore et al. (1998) explained there was a need for research in this area during this period as companies tended to take a large magnitude of asset write-offs (i.e. mean amount of write-offs ranged from 4% to 19.4% of the total assets) (Alciatore et al., 1998: 1). This is because before 1995, there was no specific requirement for US listed companies to write-down the value of those assets that had become impaired (Alciatore et al., 1998: 4). As a result, the US GAAP allowed a great deal of flexibility in accounting for the write-offs (Alciatore et al., 1998: 1).

To test motives of companies for reporting asset write-offs, prior studies (e.g. Strong and Meyer, 1987; Elliot and Shaw, 1988; Zucca and Campbell, 1992; Francis et al., 1996) employed variables which captured these motivations, such as change in CEO, big bath variable, and earnings smoothing variable. They then tested the companies' decisions in taking asset write-offs against a control group of companies which did not. By selecting variables which tested the motives for taking asset write-offs, it seems that these studies say very little about the motivation of companies for reporting zero asset write-offs (i.e. not reporting the write-offs). They also assumed a zero reported figure to be a faithful indication that no impairment has occurred.

Alciatore et al. (1998: 33) considered these prior studies to be a 'subtle problem', due to their emphasis on examining companies' motives for taking asset write-offs. They recommended that future studies identify and examine companies that 'have impaired assets but have *not* written them down' (Alciatore et al., 1998: 33). They stated:

> ‘A more subtle problem is that researchers have generally only examined firms that have taken asset write-downs. An interesting avenue for future research would be to identify and examine firms that have impaired assets but have *not* written them down, or did not write them down in a timely manner.’
>
> (Alciatore et al., 1998: 33)

The literature of goodwill impairment was initially part of the literature of asset write-offs. For example, Francis et al. (1996: 118), in examining asset write-offs categorised goodwill impairment as discretionary asset write-offs. In 2001, as a result of a joint effort between US FASB and IASB in accounting for business combinations, that required an impairment-only approach to accounting for goodwill, academic researchers started to focus exclusively on goodwill impairment. This research was initiated by Beatty and Weber (2006), and examined US listed companies implementing SFAS 142[3] in 2001. The study carried out by Beatty and Weber (2006) was later adapted by others focusing on US listed companies but with an increased sample size (i.e. Zang, 2008), including subsequent years of investigation (e.g. Guler, 2007; Ramanna and Watts, 2012), and in different environments [i.e. Lapointe-Antunes et al.’s (2008) analysis of goodwill impairment by Canadian[4] listed companies]. Two prior studies closely related to this thesis are the studies of the implementation of IFRS 3 *Business Combinations* focusing on goodwill impairment by AbuGhazaleh et al. (2011), which examined UK listed companies, and Omar and Mohd-Saleh (2011) which analysed Malaysian listed companies.

Prior studies which focused on goodwill impairment appear to be divided into three groups. The first group examined a specific accounting choice related to goodwill impairment available to US listed companies (e.g. Beatty and Weber,

[3] SFAS 142 refers to Statement of Financial Accounting Standards on Goodwill and Other Intangible Assets and was implemented in 2001.

[4] Canadian listed companies implement Section 3062 of the Canadian Institute of Chartered Accountants’ Handbook which is similar to SFAS 142, in that, it offers a transitional period to Canadian listed companies in reporting goodwill impairment in 2002. However, it differs from SFAS 142 with regard to its treatment of the transitional goodwill impairment loss as a retroactive method of a change in accounting principle instead of cumulative effect of a change in accounting principle, as required by SFAS 142.

2006; Zang, 2008) and Canadian listed companies (e.g. Lapointe-Antunes et al., 2008) during the transitional period of implementing an accounting standard on goodwill[5]. This transitional choice is not available for companies which implement IFRS 3 including Malaysian and UK listed companies. Therefore, this thesis will not discuss the hypotheses formulated by these studies, which aimed to capture companies' motives in selecting and reporting the transitional choice[6].

The second group of studies related to goodwill impairment extended the prior studies of asset write-offs by focusing on companies' motives for reporting goodwill impairment losses. For example, Godfrey and Koh (2009: 129) selected only those US listed companies which reported goodwill impairment losses from 2002 to 2004. This thesis will discuss the hypotheses formulated by this group (see Chapter 5, e.g. Section 5.6.3).

The third group of studies related to goodwill impairment examined companies likely to require write-offs (e.g. Guler, 2007; Ramanna and Watts, 2012). According to Guler (2007: 18), companies which have the 'probability of having to take a goodwill impairment charge' are companies that have their market values lower than the book values of their net assets and the difference does not exceed the amount of goodwill balance reported. Ramanna and Watts (2012: 750) regard the 'market indications of goodwill impairment' to be when companies experienced a book-to-market ratio greater than one for two consecutive years after previously reporting higher

[5] At the times of these studies, the accounting standard on goodwill for US listed companies is SFAS 142 *Statement of Financial Accounting Standards on Goodwill and Other Intangible Assets* while for Canadian listed companies, it is Section 3062 of the Canadian Institute of Chartered Accountants' Handbook.

[6] For US listed companies, the transitional choice refers to a trade-off faced by managers in either reporting goodwill impairment losses as the cumulative effect of a change in accounting principle during the transitional year (known as below-the-line of an income from continuing operation), or in delay reporting the impairment losses in that year by reporting the impairment losses in the subsequent year as an operating charge (known as above-the-line of an income from continuing operation) (Beatty and Weber, 2006: 257 and 262). For Canadian listed companies, the transitional choice refers to a decision made by managers in reporting the transitional goodwill impairment losses as a retroactive method of a change in accounting principle (Lapointe-Antunes et al., 2008: 38). The cumulative effect method under SFAS 142 requires the transitional goodwill impairment loss to be charged to income statement while the retroactive method under Section 3062 requires transitional goodwill impairment to be charged to the opening retained earnings (Lapointe-Antunes et al., 2008: 38).

market values than the book values of their net assets. Guler (2007) investigated factors influencing managers' choice in recognising goodwill impairment losses. Ramanna and Watts (2012: 750), on the other hand, adopted a more direct approach by investigating factors influencing 'goodwill non-impairment'. This thesis will also discuss the hypotheses formulated by this group (see Chapter 5, e.g. Section 5.6.2).

The two studies which analysed companies implementing IFRS3, namely, AbuGhazaleh et al. (2011) and Omar and Mohd-Saleh (2011), appear to have analysed both goodwill impairment losses and zero goodwill impairment. In the case of AbuGhazaleh et al. (2011), their analysis of goodwill impairment (a measurement study) includes the top 500 UK listed companies which reported zero goodwill impairment and goodwill impairment losses. Omar and Mohd-Saleh (2011: 400 and 402) focused on the recognition of goodwill impairment by the total population of Malaysian listed companies during the initial year of implementing FRS 3 (i.e. either in 2006, 2007 or 2008).

The review of literature discussed in this section highlights two important gaps in the studies of asset write-offs and goodwill impairment. Firstly, the majority of these studies focused on listed companies in developed economies, mainly in the US (e.g. Beatty and Weber, 2006; Guler, 2007; Zang, 2008; Ramanna and Watts, 2012) but also in Canada (i.e. Lapointe-Antunes et al., 2008) and the UK (i.e. AbuGhazaleh et al., 2011). Omar and Mohd-Saleh (2011) represent an early attempt in analysing goodwill impairment among listed companies in the developing economy of Malaysia. However, they investigate (p. 402) companies which implemented FRS 3 in the first year (either in 2006, 2007, or 2008), and the study focuses on the recognition of goodwill impairment[7]. Thus, there is a need for a more comprehensive study focusing on goodwill impairment by listed companies in a developing economy, a gap which this thesis attempts to address by conducting a measurement study[8] of goodwill impairment (see Chapter 8).

[7]Their dependent variable is a dichotomous variable, equal to one when a company reported goodwill impairment loss, and zero otherwise.

[8]In the measurement study, the dependent variable is the magnitude of goodwill impairment losses divided by prior year total assets (including goodwill), and zero otherwise reported on the income statement.

The second gap identified in the literature of asset write-offs and goodwill impairment concerns their emphasis on examining only those companies taking asset write-offs and their motives. As highlighted by Alciatore et al. (1998: 33), future studies need to identify and examine 'firms that have impaired assets but have not written them down, or did not write them down in a timely manner'. Similar in concept to the study undertaken by Ramanna and Watts (2012) as discussed in this section, this thesis aims to analyse companies' motives for recognising zero goodwill impairment in a specific setting in which impairment might reasonably be expected. The setting chosen in this thesis is one where the market values of companies are lower than the book values of their net assets for three consecutive years (see Chapter 9).

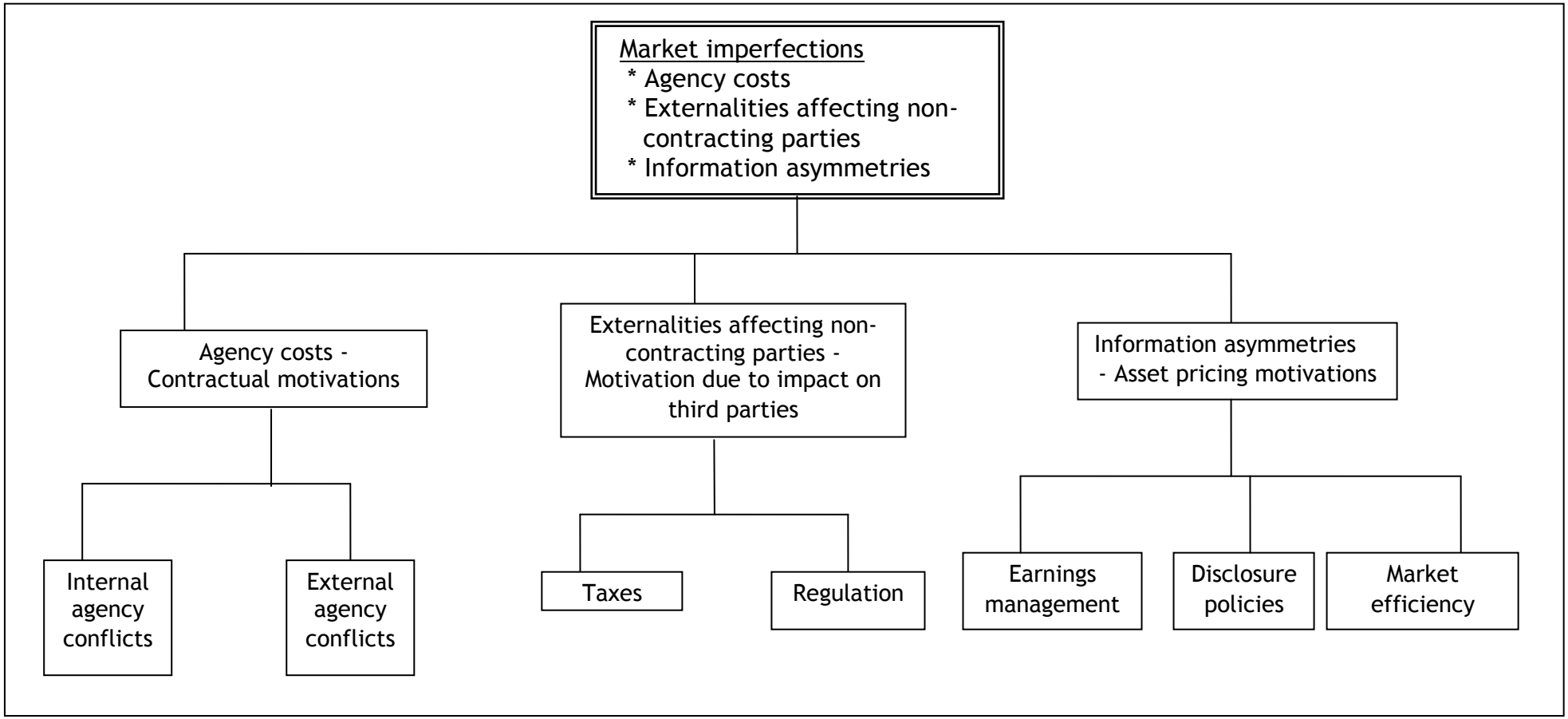
Having discussed two gaps in the literature of asset write-offs and goodwill impairment, Section 2.2.3 now briefly describes the taxonomy of accounting choice literature offered by Fields et al. (2001).

2.2.3 Companies' motivations for accounting choice as classified by Fields et al. (2001)

This section serves two purposes. Firstly, it presents an overall picture of companies' motivations with regard to accounting choice. Secondly, it identifies the relevant perspectives of accounting choice to be applied in this thesis.

In presenting an overall picture of companies' motivations for accounting choice, this thesis applies the taxonomy of accounting choice literature offered by Fields et al. (2001). In their review of accounting choice studies published in the 1990s, Fields et al. (2001) endeavoured to classify the various perspectives of accounting choice into three categories based on three different types of market imperfection, i.e. agency costs, externalities affecting non-contracting parties, and information asymmetries (Fields et al. (2001). Figure 2.1 depicts companies' motivations for accounting choice as per the taxonomy provided by Fields et al. (2001).

Figure 2.1: Companies' motivations for accounting choice classified by Fields et al. (2001) into three different types of market imperfection



Turning to Figure 2.1, the first motivation for accounting choice outlined by Fields et al. (2001: 257) is the contractual motive, which arises as a result of the existence of agency costs. In this category, managers exercise an accounting choice in order to influence contractual arrangements with the primary purpose of alleviating agency costs (Fields et al., 2001: 261-262). This view of accounting choice is referred to as an efficient contracting perspective (Fields et al., 2001: 261). For example, management compensation contracts tied to the accounting numbers are established in order to better align the incentives of the managers with the shareholders (Fields et al., 2001: 262). On the other hand, *ex post* accounting choice could be exercised in order to increase the level of management compensation or to avoid debt covenant violations (Fields et al., 2001: 262). Fields et al. (2001: 267) describe this view of accounting choice as managerial opportunism [alternatively referred to by Holthausen (1990: 207) as an opportunistic behaviour perspective]. Companies' contractual motivations will be explored in this thesis (see Section 2.3.1).

As outlined by Fields et al. (2001), externalities affecting non-contracting parties are the second motivation for an accounting choice. Fields et al. (2001) segregated this motivation into two - taxes and regulation (see Figure 2.1). Following on from this, political cost hypotheses have been developed and tested (Watts and Zimmerman, 1990: 134; Fields et al., 2001). Studies on the link between taxes and accounting choice normally analyse whether managers make use of accounting choice to minimise the present value of taxes (Dhaliwal and Wang, 1992), or to reduce the tax burden (Kang, 1993). The issue of taxes will not be explored in this thesis because under the Malaysian tax system, goodwill impairment losses are non-tax deductible (Azmi, 2006). Similarly, in the case of regulation, prior studies normally examine the impact of accounting choice on industry-specific regulation (e.g. Jones, 1991). However, in Malaysia, the number of companies which are classified under industry specific regulation is small[9].

[9] For example, Malaysian steel industry is price regulated by the government (JUBM, 2008). In this industry, only 28 firm-years (from 2006 to 2008) implemented FRS 3 related to goodwill impairment.

The third motivation for an accounting choice outlined by Fields et al. (2001) comprises asset pricing. This arises because of the existence of asymmetrical information between a company and the market (Fields et al., 2001). This motivation is segregated into three areas – earnings management, companies' disclosure policies, and market efficiency (see Figure 2.1). Asset pricing motivation will not be explored in this thesis because the issue is too far reaching for inclusion and this thesis is already committed to an analysis of three aspects of the implementation decisions, i.e. disclosure (see Chapter 7), measurement (see Chapter 8), and recognition (see Chapter 9) of goodwill impairment. However, because the asset pricing motivation examines the consequence of the accounting choice exercised, it is seen as the next step in the study of accounting choice and will be considered for future research.

One challenge faced by the researcher in following exactly the three classifications of companies' motivations for accounting choice as offered by Fields et al. (2001) (see Figure 2.1) is that these classifications do not emphasise the theoretical frameworks of accounting choice. Rather, Fields et al. (2001) focus on three types of market imperfection. Because of this, an opportunistic behaviour perspective, which is a common perspective of an accounting choice applied by prior studies of asset write-offs and goodwill impairment, is discussed by Fields et al. (2001) interchangeably both in the contractual motivations and asset pricing motivations. To overcome this issue, Section 2.3.2 discusses an opportunistic behaviour perspective both within contracts and without an explicit link with companies' contractual arrangements.

2.3 Agency theory

This section first reviews the agency theory model as developed by Jensen and Meckling (1976). Following this review, the section is expanded into three areas. Section 2.3.1 discusses the contracting perspective, Section 2.3.2 discusses the opportunistic behaviour perspective, and Section 2.3.3 evaluates the idea of the agency theory to listed companies in the developing economy of Malaysia, which are found to have concentrated ownership.

Agency theory as developed by Jensen and Meckling (1976) models the relationship between a principal (who delegates work) and an agent (who performs the work) (Eisenhardt, 1988: 490). In the model, Jensen and Meckling (1976: 308) consider contracts between owners and managers of a company, where in the contract, the owner is the principal and the manager is the agent (Jensen and Meckling, 1976). They describe these contracts as an agency relationship (Watts and Zimmerman, 1986: 181), and define the agency relationship as:

> 'A contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent.'
>
> (Jensen and Meckling, 1976: 308)

In describing the agency relationship, agency theory assumes that both the principal (owner) and the agent (manager) are utility maximisers (Jensen and Meckling, 1976: 308). Based on this assumption, the theory predicts that the agent will not always act in the best interests of the principal (*ibid., p. 308)*. This may lead to agency conflict between the two parties (Jensen and Meckling, 1976: 308; Eisenhardt, 1989). In this context, conflict refers to a situation when the actions which maximise the agent's expected utilities do not necessarily lead to the maximisation of the principal's expected utilities (Watts, 1977: 55).

The divergence of interests (and therefore the potential conflict between the principal and the agent) generates agency costs (Jensen and Meckling, 1976). These costs consist of three components: monitoring costs, bonding costs, and residual loss (Jensen and Meckling, 1976: 308). Monitoring costs are costs borne by the principal in his efforts to ensure that the agent is acting in the principal's best interest (Jensen and Meckling, 1976: 308). Watts and Zimmerman (1986: 181) explained that these costs are incurred by the principal to guarantee that the agent limits his activities, consistent with the contracts. Bonding costs are costs borne by the agent in order to provide some assurance to the principal that he will not take an action which will harm the principal's best interest, or if he does, that compensation will be provided

(Jensen and Meckling, 1976: 308). These costs are incurred by the agent to guarantee that he will limit his activities in line with the contract (Watts and Zimmerman, 1986: 181). Residual loss is a reduction in welfare faced by the principal, given optimal bonding and monitoring (Jensen and Meckling, 1976: 308).

2.3.1 Contracting perspective

In developing the contracting perspective, Watts and Zimmerman (1986: 201) emphasised the role of accounting numbers employed in the contracts. They argue that accounting numbers are used in designing the terms of the contract and in monitoring of the contracts (*ibid., p.196)*. For example, a bonus plan contract which is formulated to align the interests of the manager (agent) with those of the shareholder (principal) utilises accounting earnings (Watts, 1992). Thus, accounting numbers are seen as monitoring and bonding devices between the manager (agent) and the shareholder (principal) (Watts and Zimmerman, 1986).

The argument about the role of accounting numbers in contracts goes further by suggesting that if the accounting numbers become an integral part of the contracting process, and the numbers used in the contracts reduce companies' agency costs, then the accounting procedure used to calculate the number is more efficient than an alternative accounting procedure (*ibid., p. 196*). Employing the alternative procedure increases the agency costs and thus reduces the company's value or the manager's wealth (*ibid., p. 196*). Thus, the contracting role of accounting allows accounting procedures to have an impact on companies' values and their cash flows (*ibid., p. 199*). It also provides an explanation for managers' choice of one accounting method over another (*ibid., p. 196*).

Following this line of argument, the contracting hypothesis is developed (Watts and Zimmerman, 1986). The hypothesis states that:

> 'Accounting methods are primarily determined by the use of accounting numbers in contracts between parties to the firm.'
>
> (Watts and Zimmerman, 1990: 132)

Watts and Zimmerman (1990: 135) further elaborate the contracting hypothesis by stating that the managers' choice of one accounting method compared to another could be because the accounting choice exercised increases the wealth of all the contracting parties (i.e. efficiency reasons) or because it maximises the managers' wealth to the detriment of other contracting parties (i.e. managers acted opportunistically). Holthausen (1990: 207 and 208) referred to these explanations, i.e. efficiency reasons, and managers behaving opportunistically, as 'efficient contracting perspective' and 'opportunistic behaviour perspective' respectively.

Similar to Watts and Zimmerman (1990), Holthausen (1990) explained that under the efficient contracting perspective, accounting choice is exercised in order to reduce agency costs. He states:

> 'The efficient contracting perspective with respect to accounting choice implies that accounting methods, like the form of organization chosen or the form of contracts written, will be selected to minimize agency costs amongst the various parties to the firm.'
> (Holthausen, 1990: 207)

For the opportunistic behaviour perspective, Holthausen (1990) explained that managers take the existing contracts as given and choose an accounting method to make themselves better off at the expense of other contracting parties. He states:

> 'the accounting method a manager would choose is driven by how the choice affects the existing contracts without considering how future contracts might be written. From this perspective and some additional assumptions come hypotheses such as: managers will tend to choose more income-increasing techniques the greater the company's leverage in an effort to reduce the extent to which accounting-based debt covenants are binding, or managers choose income-increasing techniques to increase their bonuses if their compensation is directly tied to accounting earnings. These hypotheses arise not from maximization of firm value but from a transfer of wealth between bondholders, shareholders, and management which increases

> management's utility because of their holdings of stock and stock options and because of their bonus compensation plans.'
>
> (Holthausen, 1990: 208)

Briefly, the contracting perspective suggests that the manager of a company will exercise an accounting choice because of the accounting numbers used in the contracts (Watts and Zimmerman, 1990: 132). From the contracting perspective, two further perspectives emerge, namely, an efficient contracting perspective, and an opportunistic behaviour perspective (Watts and Zimmernman, 1990: 135-136; Holthausen, 1990: 207).

The efficient contracting perspective suggests that the choice of one accounting method over another is 'to minimize agency costs amongst the various parties to the firm', which lead to the maximisation of a company's value (Holthausen, 1990: 207 and 208). In contrast, taking the existing contracts as given, the opportunistic behaviour perspective sees that the accounting choice exercised by managers is designed to make them better off at the expense of other contracting parties (Holthausen, 1990: 208; Christie and Zimmerman, 1994: 539). In this thesis, it is not feasible to design a test to distinguish between the efficient contracting perspective and the opportunistic behaviour perspective (see Section 2.3.1.3). Thus, the position taken in this thesis is to interpret the finding of the debt hypothesis (which will be discussed in Sections 2.3.1.2 and 5.5) from the contracting perspective without specifying whether the result could be interpreted from the efficient contracting or opportunistic behaviour perspective. Detailed discussion of the opportunistic behaviour perspective is presented in Section 2.3.2.

In applying the contracting perspective of accounting choice, Watts and Zimmerman (1986: 198) explained that prior studies focused on two types of contract - the management compensation agreements and the debt agreements. Sections 2.3.1.1 to 2.3.1.2 discuss these two types of contract and Section 2.3.1.3 ends the section by discussing the limitation of prior studies testing the contracting perspective.

2.3.1.1 Management compensation plan: Internal agency conflicts

A management compensation plan is a contract between companies and their managers. This contract is set up in order to reduce any internal agency conflicts between the two parties. One of the management compensation contracts which has been thoroughly examined is the bonus plan (Fields et al., 2001: 266). The bonus plan is designed so that the bonus awarded is based on a certain percentage of the accounting numbers, and which reflects a company's performance (e.g. reported income, sales, or assets) (Deegan and Unerman, 2006).

Generally prior studies investigating the bonus plans found that managers exercised an accounting choice to boost their compensation (Fields et al., 2001: 267). For example, in the case of goodwill impairment, Beatty and Weber (2006), found that managers of companies with earnings-based bonus contracts that are written on net income and which include special items (i.e. goodwill impairment losses), are less likely to take goodwill impairment losses than those with earnings-based bonuses that exclude special items. For Malaysian listed companies, data on management compensation is not publicly available. For this reason, this thesis will not explore the issue of the management compensation plans.

2.3.1.2 Debt covenants: External agency conflicts

A debt covenant is a contract between companies and their debt-holders, established to reduce the agency conflicts between the two parties (Fields et al., 2001: 265). The contract often includes covenants related to the accounting numbers published in financial statements. These are designed to limit the actions of managers (Watts and Zimmerman, 1986) in redistributing the companies' values to the shareholders (Lys, 1984) at the expense of the debt-holders (Duke and Hunt, 1990). Any breach of the covenant is regarded as a default, which allows lenders to then take legal action (Watts and Zimmerman, 1986: 210).

Assuming that defaulting on the debt contracts is costly to companies, prior studies predict that managers of companies which are close to violating the debt covenants are likely to exercise an accounting choice to reduce the likelihood of breaching the accounting-based debt contracts (Watts and Zimmerman, 1986; Duke and Hunt, 1990). By exercising an accounting choice, these companies are attempting to relax the accounting-based restrictions stipulated in the debt covenants (Smith, 1993), hence avoiding violating the terms of these covenants (Dichev and Skinner, 2002). Thus, in general, the debt hypothesis suggests that companies which are close to violating their debt covenants are more likely to exercise an accounting choice by adopting income increasing accounting methods than those companies which are not (Whittred, 1987: 269; Fields et al., 2001: 273) (see Section 5.5 for detailed discussion of the debt hypothesis in relation to goodwill impairment).

To test the debt hypothesis, many of the prior studies (e.g. Press and Weintrop, 1990; Hall, 1993; Guler, 2007; AbuGhazaleh et al., 2011; Hamberg et al., 2010) employed leverage as a surrogate for companies' closeness to debt covenant violations (Duke and Hunt, 1990; Fields et al., 2001: 272). However, one continuing issue in applying leverage is that it does not fully capture the default risk of debt (Lys, 1984; Fields et al., 2001; Dichev and Skinner, 2002). For example, Dichev and Skinner (2002) examined the association between companies' actual covenant slacks and leverage for 114,330 loans (or 2,810 US borrowing companies) between 1989 and 1999. Their argument, not stated, is that for leverage to be a good proxy for the closeness to the debt covenant violation, it should be highly associated negatively with the actual debt covenant slacks, in that, highly levered companies will have fewer slacks. They found that, although the actual covenant slacks and leverage are significantly associated (in a negative direction), the correlation of the two variables is not 'large economically' (p. 1105). To them, the results of the correlation between the two variables, which is less than 0.5, suggest that for the companies they analysed, leverage is 'a noisy proxy for actual closeness to covenants' (p. 1105).

To overcome the limitation of using leverage, some researchers began to inspect the actual debt covenants of companies (e.g. Dichev and Skinner,

2002). In this thesis, because data on these debt covenants is not publicly available, leverage is employed as a proxy for closeness to debt covenant violations. The application of leverage represents a limitation to the study, in the sense that the variable is an indirect test of the debt hypothesis (see Section 5.5).

2.3.1.3 Limitation of research works testing the contracting perspective

One of the limitations of prior studies of accounting choice analysing companies' contractual arrangements is that generally they would interpret the findings as evidence of managerial opportunism (Fields et al., 2001: 267 and 271). These studies view managers as taking advantage of the discretion available in contracts to increase their compensation (Fields et al., 2001: 267). However, it is possible that in some cases, the behaviour of managers could be interpreted as value maximising (Fields et al., 2001: 271). The inclination to interpret the result from the opportunistic behaviour perspective instead of the efficient contracting perspective is because of the difficulties academic researchers face in constructing variables to test the efficient contracting perspective (Holthausen, 1990). Moreover, it is almost impossible to measure either the efficiency in contracting or the value maximisation of the companies (Fields et al., 2001: 274).

As noted in Section 2.3.1.2, the contracting perspective will be tested in this thesis by employing leverage (debt ratio). Realising that it is not yet feasible to design a test to distinguish between an efficient contracting, and an opportunistic behaviour perspective as discussed above, the position taken in this thesis is to interpret the finding of the debt hypothesis from the contracting perspective (using leverage as a proxy for company's closeness to debt covenant violation), without specifying whether the result could be interpreted from the efficient contracting, or the opportunistic behaviour perspective.

2.3.2 Opportunistic behaviour perspective

In this section, two aspects of the opportunistic behaviour perspective are discussed, namely, managerial opportunism within contracts, and managerial opportunism without an explicit link with the contractual arrangements. Incentives for the opportunistic behaviour by managers include: to influence their own compensations, based on reported earnings (Christie and Zimmerman, 1994: 542; Francis et al., 1996: 123; Riedl, 2004: 828 and 833), to reduce the likelihood of being removed as a result of their companies' poor performance (Christie and Zimmerman, 1994: 542; Healy, 1996: 108), and to transfer wealth to shareholders from other stakeholders (Healy, 1996: 108).

As noted in Section 2.3.1, managerial opportunism within contracts emerges from the contracting perspective. Taking the existing contracts as given, the opportunistic behaviour perspective posits that managers choose an accounting method to make themselves better off at the expense of other contracting parties (Holthausen, 1990: 208; Christie and Zimmerman, 1994: 539).

Prior studies generally employed proxies to capture managers' incentives in influencing companies' contractual arrangements, and they interpreted the result as providing evidence of managerial opportunism, driving the accounting choice (Skinner, 1993: 408). For example, in the case of a management compensation plan, Beatty and Weber (2006: 270) captured the effects of bonus compensation on the decisions to report goodwill impairment losses via a dichotomous variable, equal to one if a company has an earnings-based bonus plan. They (p. 273) then regress the dependent variable (i.e. measures of accounting choice) on the dichotomous variable for a bonus plan. A negative relation between the two variables is interpreted by Beatty and Weber (2006: 259) as evidence of managers exercising an accounting choice to influence their compensation. In this instance, managerial opportunism includes transferring wealth from companies to the managers under managerial compensation contracts (Skinner, 1993: 416). In the case of debt covenant, managerial opportunism involved transferring wealth from bondholders to shareholders by the managers (Skinner, 1993: 416).

Apart from interpreting evidence of managerial opportunism within the contractual arrangements of companies, prior studies have also interpreted evidence of managerial opportunism without an explicit link with companies' contracts. In the context of asset write-offs and goodwill impairment, prior studies applied the opportunistic behaviour perspective by suggesting that managers take advantage of the discretion afforded by the standard (Francis et al., 1996: 118; Riedl, 2004: 849; Hilton and O' Brien, 2009: 181 and 201). Reasons for such managerial opportunism are explained in terms of the behaviour of incoming CEOs in reporting goodwill impairment losses soon after appointment (see Section 5.6.1), the behaviour of continuing CEOs in being less likely to report goodwill impairment losses (see Section 5.6.2), big bath reporting behaviour (see Section 5.6.3), and earnings smoothing activities (see Section 5.6.4). For all these reasons, the prior studies (e.g. Elliott and Shaw, 1988; Francis et al., 1996; Riedl, 2004) did not discuss the link between the behaviour of the CEOs and the contracts which may exist between the top managers and the company. Detailed discussion of the reasons for managerial opportunism is carried out in Section 5.6.

2.3.3 Evaluation of agency theory

La Porta et al. (1998: 471) and Claessens et al. (2000: 82) believed that the theoretical study of Jensen and Meckling (1976) was developed around the image of companies with disperse ownership. The idea of disperse ownership might be challenging to listed companies in Malaysia because these companies possess at least two characteristics distinct from listed companies in the developed economies, such as the US and UK. Firstly, listed companies in Malaysia are reported by prior studies (e.g. La Porta et al., 1998: 1147; Leuz et al., 2003: 516; Haniffa and Hudaib, 2006: 1035) to have concentrated ownership (see Section 3.4). Secondly, managers of Malaysian listed companies were observed to own a large portion of their companies' shares (Claessens et al., 2000: 103; Mohd Ghazali, 2004:192) (see Section 3.4).

With concentrated ownership, the nature of the agency problem which exists in Malaysian listed companies might differ from those in developed economies, such as the US and UK. Shleifer and Vishny (1997: 754) argue that

compared to companies with disperse ownership, companies with concentrated ownership might face fewer agency problems arising from the separation of ownership and management. Niehaus (1989: 271-272) explains that when shareholders have a small stake in the companies in which they have invested, they have less incentive for monitoring the actions of managers, as the monitoring costs outweigh the benefits. However, as shareholders ownership claims increase, the benefits of monitoring managers tends to outweigh the costs (Niehaus, 1989: 271-272).

On the other hand, Fan and Wong (2002: 405) argue that in companies with concentrated ownership, the nature of the agency problem might have shifted to a conflict between controlling owners (who are also the managers) and minority shareholders. This could occur when shareholders obtain a substantial portion of a company's shares, to the point where they acquire an effective control of the company (Fan and Wong, 2005: 405). Once the effective control is acquired, the conflict of interest shifted (Fan and Wong, 2005: 405). Instead of a conflict of interest between managers and shareholders, the conflict is between controlling and the minority shareholders (Fan and Wong, 2002: 405).

The potentially different nature of the agency problem faced by companies with concentrated ownership, compared to companies with dispersed ownership (discussed above), might affect the applicability of the contracting perspective and the opportunistic behaviour perspective. The applicability of these two perspectives will be examined in the measurement study (see Chapter 8) and the recognition study (see Chapter 9) of this thesis.

With regard to managerial ownership, agency theory suggests that as an owner-manager's fraction of the equity falls, his claim on the outcome declines (Jensen and Meckling, 1976: 313; Warfield et al., 1995: 62). This in turn creates incentives for him to pursue non-value maximising behaviour such as 'shirking and perquisite taking' (Jensen and Meckling, 1976: 313; Warfield et al., 1995: 62). To restrict the manager's value-reducing behaviour when there is a separation of ownership and control, contracts which normally contain accounting-based constraints are established (Warfield et al., 1995: 62).

Given that there is latitude in GAAP, managers tend to exercise an accounting choice to either alleviate the accounting-based constraints, or to benefit from the incentives available in the contracts (Warfield et al., 1995: 62 and 63). Therefore, lower managerial ownership is associated with an increase in companies' contractual constraints, which is often based on accounting numbers (Warfield et al., 1995: 65). Accordingly, this may lead to greater accounting choice being exercised by managers in order to relax the constraints or to capitalise on the incentives (Warfield et al., 1995: 65). Thus, it is possible that when managerial ownership is high, there may be less emphasis on the incentives contracts, leading to the contracting perspective being less applicable in explaining the accounting choices exercised by managers of Malaysian listed companies.

The argument discussed above suggests that the ownership structures of companies, specifically, outside ownership concentration and managerial ownership, may well influence the accounting choices related to goodwill impairment exercised by Malaysian listed companies. By incorporating the ownership structures variables, it is hoped that a more complete model of accounting choices related to goodwill impairment by Malaysian listed companies is developed.

2.4 Summary and conclusions

This chapter has reviewed the literature on accounting choices by discussing the various definitions of accounting choice (in Section 2.2.1) and the gaps in the literature of prior studies in analysing asset write-offs and goodwill impairment (in Section 2.2.2). It has also reviewed two perspectives of accounting choice – the contracting perspective and the opportunistic behaviour perspective (in Sections 2.3.1, and 2.3.2), and discussed the applicability of the agency theory model to listed companies in the developing economy of Malaysia (in Section 2.3.3). The main conclusions of the chapter are as follows:

Firstly, the review of the various definitions of accounting choice (in Section 2.2.1) highlights that the definitions of accounting choice share a common

feature, in that, they emphasise the discretion exercised by managers. This helps the researcher to confine the scope of this thesis by focusing on the decisions made by managers of Malaysian listed companies in implementing FRS 3, focusing specifically on the disclosure, measurement, and recognition of goodwill impairment.

Secondly, the review of prior studies analysing asset write-offs and goodwill impairment (in Section 2.2.2), demonstrates that there remains at least two gaps in the study of goodwill impairment. The first gap is that all of the published studies to date have focused on companies in developed economies, in particular US listed companies. Given that the contracting perspective and the opportunistic behaviour perspective were formulated by prior studies using data from developed economies, the lack of studies on accounting choices related to goodwill impairment in a developing economy highlights the need to investigate such an issue.

The second gap in the literature is the lack of focus regarding companies' motives for reporting zero goodwill impairment. This leads this thesis to analyse both aspects of goodwill impairment, i.e. (i) motives for reporting goodwill impairment losses (in the measurement study – see Chapter 8); and (ii) motives for reporting zero goodwill impairment (in the recognition study – see Chapter 9).

Thirdly, the review of companies' motivations for accounting choice as outlined by Fields et al. (2001) (in Section 2.2.3) helps in identifying the appropriate theoretical framework of accounting choice to be applied in this thesis.

Fourthly, the review of the contracting perspective (in Section 2.3.1) and the opportunistic behaviour perspective (in Section 2.3.2) forms a basis for the development of the hypotheses in Chapter 5. Testing the hypotheses in Chapters 8 and 9 will provide empirical evidence for whether the contracting perspective and the opportunistic behaviour perspective are applicable in explaining the measurement and recognition of goodwill impairment by listed companies in a developing economy, in particular Malaysian listed companies.

Finally, the evaluation of agency theory (in Section 2.3.3) highlights that prior studies (i.e. La Porta et al., 1998: 471; Claessens et al., 2000: 82) took the view that the theoretical study of Jensen and Meckling (1976) had been developed around the image of companies with disperse ownership. Accordingly, this may affect the applicability of the contracting perspective and the opportunistic behaviour perspective among listed companies in Malaysia (in Chapters 8 and 9). The evaluation of the agency theory model also suggests that the ownership structures of companies may well influence the accounting choices exercised by Malaysian listed companies. The ownership structures of Malaysian listed companies will be discussed in Chapter 3, and the formulation of additional hypotheses related to the ownership variables in Chapter 5.

Chapter 3: Accounting for Goodwill in Malaysia

3.1 Introduction

Chapter 2 has provided a review of literature on accounting choices and the two perspectives of accounting choices, i.e. the contracting perspective, and the opportunistic behaviour perspective, to be applied in this thesis. As noted in that chapter, most of the prior studies analysing asset write-offs and goodwill impairment have focused on listed companies in developed economies, namely, the US, Canada, and UK. As this thesis is concerned with accounting choices related to goodwill impairment exercised by Malaysian listed companies, the present chapter serves as an introduction to the financial reporting environment in Malaysia, both before and after the implementation of the FRS 3 *Business Combinations*.

The purpose of this chapter is threefold. Firstly, it reviews the history of the development of an accounting standard on goodwill in Malaysia, prior to the implementation of FRS 3 *Business Combinations*. The review provides an insight into the issue of accounting for goodwill surrounding the Malaysian standard setters since the 1970s, and assists the researcher in forming an expectation regarding the possibility of accounting choices exercised by listed companies in Malaysia.

Secondly, it discusses the regulatory bodies overseeing Malaysian listed companies' compliance with accounting standards. This review helps in the formulation of the hypotheses in Chapter 5 and the interpretation of the findings in Chapters 8 and 9.

Thirdly, it discusses the ownership structures of Malaysian listed companies. This discussion provides insight into the applicability of the contracting perspective and the opportunistic behaviour perspective (reviewed in Chapter 2) in explaining the accounting choices related to goodwill impairment exercised by Malaysian listed companies. It also leads to the formulation of

additional hypotheses related to the ownership structures variables in Chapter 5.

This chapter is structured into five main sections including the introduction. Section 3.2 presents the history of the development of an accounting standard on goodwill in Malaysia, prior to the implementation of FRS 3. Section 3.3 highlights the regulatory bodies overseeing companies' compliance with financial reporting standards, especially during the implementation of FRS 3. Section 3.4 discusses the distinctive ownership structures of Malaysian listed companies. Section 3.5 provides a summary and conclusions.

3.2 History of the development of an accounting standard on goodwill in Malaysia

This section aims to review the history of the development of an accounting standard on goodwill in Malaysia. It begins with the efforts of the standard-setters in developing an accounting standard on goodwill (see Section 3.2.1), before continuing with objections to Malaysian Accounting Standard (MAS) 6 *Accounting for Goodwill* (see Section 3.2.2), and ending with the setting up of the Financial Reporting Act 1997 (see Section 3.2.3). Understanding the history, assists the researcher in forming an expectation concerning the possibility for accounting choices related to goodwill impairment being exercised by Malaysian listed companies.

3.2.1 Efforts of the standard setters in developing an accounting standard on goodwill

In Malaysia, the development and issuance of financial reporting standards is the responsibility of an independent body known as the Malaysian Accounting Standards Board (MASB), which was established in 1997 by the enactment of the Financial Reporting Act 1997 (MASB, Undated[10]). Prior to 1997, the issuance of accounting standards was the responsibility of a professional accounting body, the Malaysian Association of Certified Public Accountants (MACPA) (Susela, 1999). Specifically, during the period 1958-1967, there was

[10] MASB (Undated). MASB profile. Retrieved on April 15, 2011 from http://www.masb.org.my/index.php?option=com_content&view=article&id=3&Itemid=7

no legislation to regulate the accountancy profession (*Ibid*, p. 361). Only in 1967, the Accountancy Act 1967 came into force, and the Malaysian Institute of Accountants (MIA) was established as a statutory body for the regulation of the accountancy profession (*Ibid*, p. 362).

The discussion of accounting for goodwill in Malaysia emerged as early as 1971, when the Central Bank of Malaysia requested that MACPA should look into companies' practices of accounting for goodwill (Susela, 1996). As noted in a letter dated September 10, 1971 sent by the Governor of the Central Bank to the President of MACPA:

> 'Generally, our Committee tends to view "goodwill" with scepticism and I would like to have the assurance that the auditing profession would not support the valuation placed on goodwill without full confidence that it is fairly stated.'
>
> (Susela, 1996: 332)

From 1971 onwards, a number of initiatives were put in place to probe the issue of accounting for goodwill. Figure 3.1 shows the chronology of these initiatives. In 1971, a Technical Committee was set up by MACPA to address the various issues raised by the Central Bank, among which was the question of accounting for goodwill (Susela, 1996: 332). However, the issue related to goodwill was not addressed explicitly until 1987, when the two accounting professions - MACPA and MIA, initiated a joint effort on the subject (*Ibid*, p. 335) (see Figure 3.1). The joint effort resulted in a discussion paper on accounting for goodwill, which was circulated to members of these two professional bodies (*Ibid*, p. 335). However, the feedback received from their members was so diverse that they decided to defer issuing an accounting standard on goodwill (*Ibid*, p. 335).

In 1991, in the absence of an accounting standard on goodwill, the Capital Issue Committee (part of the Ministry of Finance[11]), decided to tackle the

[11] Capital Issue Committee is a regulatory body under the Ministry of Finance, which oversee the capital market in Malaysia prior to the establishment of the Securities Commission (Securities Commission, Undated). Frequently-Asked Questions. General information on the SC. Retrieved on April 9, 2011 from http://www.sc.com.my/eng/html/resources/faq/faqgeneral.html

issue of accounting for goodwill on its own initiatives by issuing guidelines on accounting for goodwill for Malaysian listed companies (Susela, 1996: 335). This action, plus the significant increase in the numbers of business acquisitions, pressured the two accounting bodies to reconsider the issue of an accounting standard on goodwill (*Ibid*, p. 335).

Figure 3.1: Chronology of initiatives carried out by the Malaysian standard setter in issuing an accounting standard on goodwill

Year	Agenda
1971	Technical Committee of MACPA - Goodwill standard was on the agenda of the committee.
1987	Discussion paper on accounting for goodwill - A joint effort initiated by MACPA and MIA.
1991	Capital Issue Committee (part of the Ministry of Finance) - Issued guidelines on accounting for goodwill.
1992	Exposure draft - Malaysian Accounting Standard 6 (MAS 6) *Accounting for Goodwill*
1993	Issued MAS 6 *Accounting for Goodwill* as a result of a joint effort of MIA and MACPA - The effective date of MAS 6 is for periods commencing on or after January 1, 1995.
1994	MIA defers the implementation of MAS 6 to January 1, 1997
1997	The enactment of the Financial Reporting Act (1997) and the establishment of the MASB
1998	MAS 6 was not adopted by MASB as an approved accounting standards
2000	MASB Exposure Draft 28 (MASB ED 28) issued for comments by February 2001
2006	FRS 3 *Business Combinations*

Sources: Susela (1996); Tan (2000); MASB (2000, 2001, 2005, 2006a)

Accordingly, the two accounting bodies assigned an academic (i.e. Tan, 1990) to study the accounting treatment of goodwill practised by companies listed on the main board of the Kuala Lumpur Stock Exchange for the reporting year ended 1990 (Susela, 1999: 336). Using annual reports published in 1990 and focusing on companies listed on the main board, the study, by Tan (1990), revealed that of the 276 companies examined, 155 had a goodwill accounting policy with three distinct accounting treatments (Susela, 1999: 365). 35% of the companies capitalised and amortised the goodwill, 34% treated it as a permanent item, and 27% used immediate write-off to reserves, with the remaining 4% employing other methods (Susela, 1999: 365).

In 1992, MIA and MACPA jointly published an exposure draft of accounting for goodwill - Malaysian Accounting Standard 6 (MAS 6) (Susela, 1996: 338). In April 1993, MAS 6 *Accounting for Goodwill* was issued as an accounting standard for goodwill with an effective date for periods commencing on or after January 1, 1995 (*Ibid*, p. 338). Among the key requirements of MAS 6 were that purchased goodwill should be recognised as a fixed asset, and the amount should be amortised systematically through the Profit and Loss account (Susela, 1999: 359; Tan, 2000: 293). Further, the standard stipulated the amortisation period not to exceed 25 years, and that amortisation charges were to be treated as a normal expense (above the line of the operating income) (Tan, 2000: 293).

3.2.2 Objections to Malaysian Accounting Standard (MAS) 6 *Accounting for Goodwill*

Prior to its effective date, MAS 6 encountered objections from large Malaysian corporations and big-6 audit firms (Susela, 1999: 366 and 383). The main objections centred on the concerns for the socio-economic consequences of the accounting standard on Malaysian listed companies, consideration for the specific nature of the economy in Malaysia, and acceptance of the standard by the business community (Susela, 1999). Figure 3.2 depicts the detailed objections to MAS 6 documented by Susela (1999).

Figure 3.2: Detailed objections to MAS 6 *Accounting for Goodwill*

1.	Socio-economic consequences of the standard
	i. 'we [Malaysian companies] are in the stage of experiencing growth and therefore, it might be too early to adopt the goodwill standard [MAS 6] as it might have a severe impact upon the profit of listed companies' cited in Susela (1999: 375).
	ii. 'goodwill amortisation would, in the absence of associated tax relief, hamper development of capital markets through its impact on reported earnings' cited in Susela (1999: 375).
	iii. 'Malaysian companies would be placed at a competitive disadvantage by the standard [MAS 6]' cited in Susela (1999: 375).
2.	Specific nature of the Malaysian economy
	i. 'it was the peculiar[12] regulated environment in Malaysia that created huge goodwill accounting numbers, some portion of which

[12] The peculiar regulated environment in Malaysia argued by the opponents of MAS 6 referred to licences such as stock-broking and broadcasting which were controlled and regulated by

	might be represented by identifiable intangibles. MAS 6's amortisation requirements were problematic because they did not acknowledge that Malaysia was different' cited in Susela (1999: 375-376).
3.	Acceptance by the business community
i.	'Accounting standards should not be adopted that are not accepted by commerce and industry' cited in Susela (1999: 379).

Source: Based on Susela (1999)

The objections raised by the large corporations induced MACPA to defer the approval of MAS 6. MIA, on the other hand, stood by its decision and implemented the standard in 1993 (Susela, 1996: 338; Susela, 1999: 359). Failing to persuade MIA to defer MAS 6, the large corporations pursued the issue with the Federation of Public Listed Companies (FPLC[13]), who then appealed the matter to the Ministry of Finance (Susela, 1996: 338). Susela (1996) noted that on page eight of the FPLC memorandum sent to MIA, the FPLC argues that:

> '[T]he approach taken ignores business and economic realities - the amortised goodwill reduces the post-acquisition earnings, and is a disincentive to businessmen and entrepreneurs who assume significant risks in their investments, and discourages the growth of companies through mergers and acquisitions.'
>
> (Susela, 1996: 349)

At the end of 1994, increased pressure from the state compelled MIA to defer the implementation of MAS 6, initially until January 1, 1997 (Susela, 1996: 338; Susela, 1999: 366), and then indefinitely (Tan, 2000: 307). To Susela (1996), the obstacles faced by the standard setter in issuing an accounting standard on goodwill showed that:

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the Malaysian government (Susela, 1995: 352). Because in certain areas, no more licences would be granted by the government, these licences became very valuable, which lead to a high value of goodwill where companies had acquired the licences. Thus, the opponents argued that the standard setter should consider the accounting standard on intangibles before implementing an accounting standard for goodwill (Susela, 1996: 352).

[13] The Federation of Public Listed Companies (FPLC) is a non-profit organisation, whose members comprise companies listed on the Stock Exchange, as defined under the Securities Industry Act 1983 (FPLC, Undated). Retrieved on April 9, 2011 from http://www.fplc.com.my/FPLCv02/index.html

> 'The case of the Goodwill Standard illustrates the attempts by the internal forces, the major corporations, to resist the urge to follow International Accounting Standards (which hitherto had been a major influence on the standard setting process) and instead defer the standard in consideration of the environmental issues raised.'
>
> Susela (1996: 148)

3.2.3 Establishment of the Financial Reporting Act 1997

In 1997, the Financial Reporting Act 1997 was established together with the setting up of the Malaysian Accounting Standards Board (MASB) (MASB, Undated[14]). As a result, the Companies Act 1965 was amended to require compliance with the MASB-approved accounting standards (Susela, 1999: 366). In issuing the accounting standards, MASB has a convergence policy towards the International Accounting Standards (IASs) issued by the IASB (MASB, 2004). This means that the MASB approved accounting standards are based on those set by the IASB (formerly the International Accounting Standards Committee - IASC) with the wording in the IASB standards strictly maintained (MASB, 2004). Alterations to the IASB standards would only be made if there existed specific local issues which were not covered by the IASB, when there was a need to ensure compliance with Malaysian laws and regulations, or as an illustration to better understand the standards (MASB, 2004). In 1998, MASB adopted 24 accounting standards issued by the former standard setters (i.e. MACPA and MIA) (Tan, 2000: 13). MAS 6 was not adopted (Tan, 2000: 13).

A study undertaken by Abdullah et al. (2004), which investigated the accounting treatment of goodwill by Malaysian listed companies between 1996 and 2000, documented that the three diverse accounting treatments for goodwill, as reported by Tan (1990) and discussed earlier in this section had reduced. Between 1996 and 2000, the majority of listed companies now capitalised and amortised goodwill. For example, in 1996, 64.8% of the companies (or 93 companies) amortised the goodwill. In 2000, the percentage

[14] MASB (Undated). MASB profile. Retrieved on April 15, 2011 from http://www.masb.org.my/index.php?option=com_content&view=article&id=3&Itemid=7

of companies that capitalised and amortised goodwill increased to 68.8% (or 106 companies). The remaining companies either capitalised and carried out an impairment review of the goodwill, or treated goodwill as a permanent item.

In December 2000, MASB adopted IAS 22 *Business Combinations* and renamed it as MASB 21 *Business Combinations* (MASB, 2006: MASB 21). In paragraph six of MASB 21, it was stated that the standard on business combinations does not deal with accounting for goodwill or negative goodwill (MASB, 2006: MASB 21). The paragraph stipulated that the treatment for goodwill would be dealt with in a separate standard (MASB, 2006: MASB 21). The board explicitly stated in Appendix 1 of MASB 21 that compliance with the standard ensured conformity, in all material respects, with IAS 22 (revised) except for goodwill, reverse acquisition, and measurement of minority interest (MASB, 2006b: MASB 21).

In 2001, MASB issued MASB ED 28 (MASB, 2001). This MASB exposure draft on goodwill was issued for comment by February 2001 (MASB, 2000). Among the key requirements of the Exposure Draft were: the treatment of purchased goodwill as an asset (paragraph 9); the treatment of goodwill subsequent to the initial recognition (paragraphs 32-47); and the disclosure requirements related to goodwill (paragraphs 55-58) (MASB 2001: MASB ED 28). In the case of the treatment of goodwill subsequent to initial recognition, the Exposure Draft proposed that goodwill should be carried at cost, less any accumulated amortisation and any accumulated impairment losses (paragraph 32) (MASB 2001: MASB ED 28). As for the amortisation of goodwill, the Exposure Draft proposed goodwill to be amortised using a straight-line method with a rebuttable presumption that the useful life shall not exceed 20 years from the initial recognition (paragraph 33) (MASB 2001: MASB ED 28). If the estimated useful life of goodwill exceeds 20 years from its initial recognition, the Exposure Draft proposed an annual impairment test of the goodwill (paragraph 47) (MASB 2001: MASB ED 28). Both the amortisation and impairment loss of goodwill would be recognised as expenses (paragraph 35) (MASB 2001: MASB ED 28).

According to the then Chairman of MASB, the Exposure Draft aimed to solve the 'contentious issue of accounting for goodwill' (MASB, 2000). The Exposure

Draft was released to professional accountancy bodies, regulators, users, preparers, and other interested users and organisations for comment by February 20, 2001 (MASB 2001: MASB ED 28). However, the comment letters submitted to MASB cannot be analysed by the researcher. This is because, according to the Technical Director of MASB, the comment letters were not made publicly available due to the respondents' requests for confidentiality. MASB ED 28, which was intended to be issued on 1 July 2001, was withdrawn by the MASB (Abdullah et al., 2004). The standard setter reasoned that the Board wanted to adopt an approach which was similar to that of the IASB, that is, to combine goodwill into the Business Combinations standard.

In January 2006, MASB approved 21 financial reporting standards issued by the IASB (MASB, 2005). Of these, 18[15] were finalised and became effective for listed companies with annual period beginning on or after January 1, 2006 (MASB, 2005). IFRS 3 *Business Combinations* which specifies the accounting treatment for goodwill was one of the 18 financial reporting standards adopted by MASB (MASB, 2005). IFRS 3 is a result of a joint effort between the IASB and the US FASB (see Section 4.2 for detail). In Malaysia, it was renamed as FRS 3, and, together with its two consequential standards (i.e. FRS 136 *Impairment of Assets* and FRS 138 *Intangible Assets*), was made effective for business combinations on or after January 1, 2006 (MASB, 2005). The implementation of FRS 3 in 2006 provided listed companies in Malaysia with a specific accounting standard on goodwill, previously unavailable prior to 2006 (Pillai, 2006).

3.2.4 Implication of reviewing the history of the development of an accounting standard on goodwill in Malaysia

The review of the history of the development of an accounting standard on goodwill in Malaysia (discussed in Sections 3.2.1 to 3.2.3 above) has two implications for this thesis.

[15] The three financial reporting standards which were deferred included FRS 117 *Leases*, FRS 124 *Related Party Disclosures*, and FRS 139 *Financial Instruments: Recognition and Measurement* (MASB, 2005).

Firstly, the review demonstrates that in Malaysia, accounting for goodwill has been an issue since the 1970s (see Section 3.2.1). The issue arose as large corporations objected to the publication of an accounting standard on goodwill and their objections reached the point of them lobbying the Ministry of Finance to defer the standard (see Section 3.2.2). As pointed out by Susela (1999: 379), the objections raised by these large corporations indicate that the acceptance of an accounting standard by the corporations was based on the suitability of the accounting method to the environment in which the organisations operated.

Secondly, the review highlights that although there were numerous efforts put in place by standard setters in order to resolve the issue of accounting for goodwill, none has succeeded (see Section 3.2.1). The implementation of FRS 3 in 2006 appears to have silenced the debate as companies are now required to comply with the FRSs (see Section 3.2.3). Nonetheless, given the history of companies resisting an accounting standard based on its suitability, it raises the question of whether companies are following the standard in good faith or whether they are taking advantage of the covert options available to managers during an impairment test of goodwill in order to get the desired result (see detailed discussion in Sections 4.4 and 4.4.2).

A point of note is that although a review of the history is important for background information for this thesis, the findings, in particular the works of Susela (1999) and Abdullah et al. (2004) could not provide information concerning the reactions of the Malaysian listed companies toward the implementation of FRS 3 and FRS 136. Moreover, since the comment letters on MASB ED 28 (an exposure draft on accounting for goodwill) are not available for public viewing, there remains a gap in knowing the degree of acceptance of the Malaysian listed companies toward the implementation of FRS 3 and FRS 136. To address this gap, semi-structured interviews were carried out between June and July 2009, and these are discussed in the next section.

3.2.5 Background information obtained from semi-structured Interviews

The semi-structured interviews were designed to obtain the respondents' perspectives on the implementation of FRS 3 and FRS 136, focusing on an impairment test of goodwill. Four groups of respondents were targeted: finance managers, auditors, analysts, and standard setters. A list of open ended interview questions was designed and ethical approval to conduct the interviews was obtained from the Ethics Committee of the Accounting and Finance Department, University of Glasgow on March 17, 2009. Following this approval, 30 potential interviewees were contacted through formal gatekeepers and personal acquaintances. These potential interviewees were selected based on the existence of goodwill in the company and their expertise in the area. Of the 30 potential interviewees contacted, seven initially agreed to participate. However, one day prior to the interviews, three personnel cancelled their appointments. Thus, only four semi-structured interviews were carried out independently. These were interviews with a finance manager, a senior auditor, an analyst, and a former standard setter from the MASB. The interviews were tape-recorded, transcribed, and analysed.

Due to the very low number of respondents, it was impossible to gain broad understanding of the implementation of accounting standards on goodwill (i.e. FRS 3 and FRS 136) via the findings generated from the semi-structured interviews. Consequently, the findings of the semi-structured interviews serve as background information, rather than forming the key results for this thesis. The findings have assisted the researcher in the following two ways.

Firstly, the information gathered from the senior manager of a big-4 audit firm, the financial analyst, and the finance manager of Malaysian listed companies, suggests that when companies' market values are lower than the book values of their net assets within a year (i.e. there is a market capitalisation indication), that situation requires careful consideration. This is because companies might consider the market capitalisation indication which occurs within a single year as a temporary phenomenon. This information has led the researcher to design a research setting which aims to

provide a much stronger market capitalisation indication that goodwill may be impaired. This is accomplished by selecting companies which have their market values lower than the book values of their net assets for three consecutive years instead of within a year (see Section 9.2.1). This research setting will be explored in the recognition study (see Chapter 9).

Secondly, the semi-structured interviews provided insight into how a company identifies its cash-generating-units (CGUs) and the rationale for such identification. This information helped the researcher to better understand companies' disclosure of CGUs, i.e., in terms of identifying the number of CGUs disclosed by companies in their annual reports. Hence, the information assisted the researchers in the collection of data, in order to test the hypotheses related to the CGUs (see Section 5.8.1).

3.3 Regulatory bodies overseeing the compliance with accounting standards of companies in Malaysia

This section reviews the financial reporting environment surrounding Malaysian listed companies in order to assist in the interpretation of findings for the empirical chapters of this thesis (see Chapters 8 and 9). Ball et al. (2003: 236) argue that political forces such as the extent of involvement of regulatory bodies in enforcing accounting standards may affect the incentives of managers when producing companies' financial reports.

In Malaysia, the regulatory bodies responsible for enforcing compliance with the approved accounting standards include the Registrar of Companies (under the Companies Act 1965), the Central Bank (under the Banking and Financial Institutions Act 1989), and the Securities Commission (under the Securities Commission Act 1993) (MASB, Undated[16]). In the 1990s, Malaysia experienced a significant transformation in its financial reporting framework, with the government announcing its plan to establish a new financial accounting and reporting regime (Tan, 2000: 2-3). Consequently, on March 6, 1997, the Financial Reporting Act 1997 was passed together with the setting up of the

[16] MASB (Undated). Foreword to Financial Reporting Standards. Retrieved on April 17, 2011 from http://www.masb.org.my/index.php?option=com_content&view=article&id=146%3Aforeword-full-pg2&catid=9%3Aforeword&Itemid=23

Financial Reporting Foundation[17] and MASB (MASB, Undated[18]; Tan, 2000). Thus, from 1997 onwards, the accounting standards issued by MASB became legal requirements (Susela, 1999: 366; Tan, 2000: 4). The enactment of the Financial Reporting Act 1997 also made it a statutory duty of companies' directors and managers to ensure that their financial statements complied with the MASB approved accounting standards (Tan, 2000: 4).

With regards to companies listed on the Malaysian stock exchange (i.e. Bursa Malaysia), which is the focus of this thesis, the Securities Commission and the Bursa Malaysia each play a role in monitoring, and supervising companies' compliance with MASB approved accounting standards (Tan, 2000: 7 and 9). The Securities Commission, demonstrating its commitment to enforcement, revealed on its website, a list of court cases in which it had prosecuted directors of listed companies for the criminal offences related to furnishing misleading statements to the Securities Commission and to the Bursa Malaysia (Securities Commission, Undated[19]).

Unlike the Securities Commission, which has the legal power to enforce compliance with MASB approved accounting standards, Bursa Malaysia is a private sector body incorporated to regulate companies listed on its exchange (Tan, 2000: 9). It has no legal authority to enforce compliance (Tan, 2000: 9). Nonetheless, the Bursa Malaysia Listing Requirements and Bursa Malaysia Rules empower the stock exchange to take enforcement actions for breaches of the requirements (Bursa Malaysia, Undated[20]). One of the Listing Requirements of the Bursa Malaysia is for companies to submit annual audited

[17] Among the primary roles of the Financial Reporting Foundation are to oversee the performance, financials and funding arrangements for the MASB (MASB, Undated). Retrieved on May 6, 2011 from http://www.masb.org.my/index.php?option=com_content&view=article&id=1&Itemid=5

[18] MASB (Undated). Foreword to Financial Reporting Standards. Retrieved on April 17, 2011 from http://www.masb.org.my/index.php?option=com_content&view=article&id=146%3Aforeword-full-pg2&catid=9%3Aforeword&Itemid=23

[19] Securities Commission (Undated). Enforcement actions. Criminal prosecution initiated. Retrieved on April 5, 2011 from http://www.sc.com.my/main.asp?pageid=729&menuid=394&newsid=&linkid=2496&type=

[20] Bursa Malaysia (Undated). Enforcement overview. Retrieved on April 17, 2011 from http://www.bursamalaysia.com/website/bm/regulation/enforcement/overview.html

accounts, prepared in accordance with the MASB approved accounting standards (Tan, 2000: 9).

The various regulatory bodies which exist in Malaysia, plus active monitoring by the Securities Commission and the Bursa Malaysia, suggest that strong regulatory enforcement is in place in Malaysia. In the context of companies implementing FRS 3, and focusing on goodwill impairment, such strong regulatory enforcement implies that listed companies in Malaysia have no choice but to comply with FRS 3.

3.4 Ownership structures of listed companies in Malaysia

Section 2.3.3 discusses briefly the applicability of the agency theory model of Jensen and Meckling (1976) to Malaysian listed companies. This section continues the discussion by identifying two features of the ownership structure of Malaysian listed companies which distinguish the Malaysian context.

Firstly, Malaysian listed companies are documented by prior studies (e.g. La Porta et al., 1998: 1147; Leuz et al., 2003: 516; Haniffa and Hudaib, 2006: 1035) to have concentrated ownership. For example, Leuz et al. (2003: 516) reported that during their period of study (1990 to 1999), the median shareholding of the largest three shareholders of listed companies in Malaysia was 52% while for the UK and US it was 15% and 12% respectively. Likewise, Mohd Ghazali's (2004) analysis of 87 Malaysian listed companies in 2001 reported the median shareholding of the top 10 largest shareholders to be 67.2%.

Secondly, Malaysian listed companies are reported by prior studies (Claessens et al., 2000: 103; Mohd Ghazali and Weetman, 2006: 231) to be managed by their owners. As an illustration, Claessens et al. (2000: 103) observed that at the 20% cut-off levels, 67.2% of listed companies in Malaysia were in family hands, and *85%* had the owner as the manager.

The two features of the ownership structure discussed above suggest that the ownership structures of Malaysian listed companies are not widely dispersed. Given the different features of the ownership structures which exists in the Malaysian listed companies compared to listed companies in developed countries, such as the US and UK, ownership structures will be examined in this thesis. Ownership concentration and managerial ownership will be further explored in developing the hypotheses (see Sections 5.7 to 5.7.2).

3.5 Summary and conclusions

This chapter has reviewed the history of the development of an accounting standard on goodwill in Malaysia, prior to the implementation of FRS 3 (in Section 3.2), and highlighted the regulatory bodies overseeing Malaysian listed companies' compliance with accounting standards (in Section 3.3). It has also discussed how the ownership structures of listed companies in Malaysia differ from listed companies in developed economies, such as the US and UK (in Section 3.4). The main conclusions of the chapter are as follows:

Firstly, reviewing the history of the development of an accounting standard on goodwill in Malaysia (in Section 3.2) demonstrated that Malaysia has a specific history of accounting for goodwill. The specific history, that is, the objections to an accounting standard on goodwill prior to the implementation of FRS 3 raised by large corporations, which lead to deferment of the standard indefinitely, indicates that the acceptance of an accounting standard by these large corporations was based on questions about the suitability of the accounting method to the environment in which the organisations operated.

The review of the history (in Section 3.2.1) has also shown that prior to FRS 3, though numerous efforts were put in place by standard setters to resolve the issue of accounting for goodwill, none succeeded. The implementation of FRS 3 in 2006 appears to have dismissed the issue as companies are now required to comply with the financial reporting standard. Nonetheless, given the history of companies resisting an accounting standard based on its suitability, it raises the question of whether companies are following the standard in good faith or whether they are taking advantage of the covert options available to

managers during an impairment test of goodwill for their reporting incentives. This question leads to a discussion of the covert options available to managers in the next chapter (see Section 4.4.2).

Secondly, the review of the regulatory bodies overseeing compliance with accounting standards in Malaysia (in Section 3.3) suggests that strong regulatory enforcement is in place in Malaysia. This implies that compliance with FRS 3 is not a choice. This information facilitates the formulation of hypotheses in Chapter 5 and the interpretation of the findings in Chapters 8 and 9.

Finally, the different ownership structures which exists between Malaysian listed companies and those listed companies in developed economies, such as the US or UK suggests a potentially different form of agency conflict might have occurred (in Section 3.4). By incorporating ownership structure variables, it is hoped that a more complete model of accounting choices related to goodwill impairment will be developed. This is particularly crucial when prior studies (e.g. La Porta et al., 1998; Claessens et al., 2000) argue that the work of Jensen and Meckling (1976) is based on the assumptions of companies with disperse ownership. Listed companies in Malaysia are found to have concentrated ownership. Thus, the investigation of Malaysian listed companies is expected to provide insight into the applicability of the agency theory, the contracting perspective, and the opportunistic behaviour perspective in explaining the accounting choices related to goodwill impairment in a country with concentrated ownership.

Chapter 4: Discretion Available in IFRS 3 while Performing an Impairment Test of Goodwill

4.1 Introduction

Chapter 3 has reviewed the financial reporting environment in Malaysia both before and after the implementation of FRS 3 *Business Combinations*. The present chapter continues by reviewing the requirements of IFRS 3[21], focusing on an impairment test of goodwill. The purposes of the present chapter are twofold. Firstly, it describes the development of the IFRS 3 and FRS 3 in order to specify the phase of the FRS 3 which will be examined in this thesis. Secondly, it discusses three issues - the indications that an asset (goodwill) may be impaired, the judgements and estimates applied by managers in performing an impairment test of goodwill, and the weakness of the impairment test raised by few of the IASB board members, in order to describe the accounting choices related to goodwill impairment, which will be examined in this thesis.

The chapter is structured into seven sections including the introduction. Section 4.2 describes the development phases of the IFRS 3 and FRS 3. Section 4.3 proceeds with indications that an asset (goodwill) may be impaired. Section 4.4 discusses the judgements and estimates involve in measuring the recoverable amount of the cash-generating-units (CGUs) containing goodwill. Section 4.5 continues with a discussion of the critiques of the impairment test of goodwill highlighted by few of the board members of the IASB through their dissenting opinions. Section 4.6 discusses the accounting choices related to goodwill impairment which will be examined in this thesis. Section 4.7 ends the chapter with a summary and conclusions.

[21] FRS 3 *Business Combinations* refers to Malaysian Financial Reporting Standard 3 *Business Combinations* while IFRS 3 refers to the International Financial Reporting Standard 3 *Business Combinations*, issued by the IASB (see Figure 4.1). When a discussion revolves around the exact requirement of the standard, especially when the issues are stated in the Basis for Conclusion (not available in FRS 3), IFRS 3 is applied; when a discussion involves Malaysian environment, FRS 3 is applied.

4.2 Phases of the development of IFRS 3 and FRS 3 Business Combinations

The purpose of this section is to review the phases of the development of FRS 3 in order to specify the phase of the FRS 3 and FRS 136 *Impairment of Assets*, examined in this thesis.

IFRS 3 *Business Combinations* is the result of a joint effort between the IASB and the US FASB to improve financial reporting and promote an international convergence of accounting standards (IASB, 2010a: IFRS 3, IN1, A97). The joint effort was conducted in two phases, the first phase of the project resulted in the issuance of IFRS 3 by the IASB with an effective date of April 1, 2004; the second phase of the project led to a revised version of IFRS 3 by the IASB with an effective date of July 1, 2009 (IASB, 2010a: IFRS3, IN1, A97; IASB, Undated[22]). The issuance of IFRS 3 also led to a revision of its consequential standard, IAS 36 *Impairment of Assets* (IASB 2010b: IAS 36, IN2, A758). Figure 4.1 shows the phases of the development, and revision of the IFRS 3 (FRS 3 in Malaysia) and the IAS 36 (FRS 136 in Malaysia) and their effective dates for both the IASB and the MASB. As of July 1, 2010, IFRS 3 has been revised twice and IAS 36 has been revised three times by the IASB (IASB, Undated).

Although MASB has a convergence policy[23] towards the IASs, the implementation dates of the MASB approved accounting standards differ from those of the IASB. As shown in Figure 4.1, in Malaysia, the effective dates for FRS 3 and FRS 136 were January 1, 2006 (MASB, Undated[24]). The first revision of FRS 3 (phase II) and the second revision of FRS 136 (phase II) became effective on July 1, 2010 (MASB, Undated). For this reason, the investigation of accounting choices related to goodwill impairment which will be examined

[22] IASB (Undated). Summaries of International Financial Reporting Standards. Retrieved on April 18, 2011 from http://www.iasplus.com/standard/ifrs03.htm

[23] Convergence policy with IFRS means full compliance with IFRS as a basis for the financial reporting system in Malaysia. However, the term convergence is applied instead of adopt as the MASB follows a Malaysian due process and need to comply with the local legislation on financial reporting (MASB, Undated). Retrieved on August 16, 2012 from http://www.masb.org.my/index.php?option=com_content&view=article&id=1685&Itemid=57

[24] MASB (Undated). Financial reporting Standards. Retrieved on April 19, 2011 from http://www.masb.org.my/index.php?option=com_content&view=article&id=1476

in this thesis focuses on Malaysian listed companies implementing FRS 3 and FRS 136, from January 1, 2006 (i.e. phase I of the development as shown in Figure 4.1). The period of investigation is in the first three years of the implementation of FRS 3 (i.e. from 2006/7 to 2008/8 - see Figure 6.1 for detail).

Figure 4.1: Phases of the IFRS 3 (FRS 3 in Malaysia) *Business Combinations* and IAS 36 (FRS 136 in Malaysia) *Impairment of Assets*

	IASB	MASB
Business Combinations	**IFRS 3**	**FRS 3**
Phase I: IFRS 3 *Business Combinations* and related amended versions of IAS 36 and IAS 38 - IFRS 3 supersedes IAS 22	31 March 2004	
Effective date of IFRS 3	1 April 2004	1 January 2006
Phase II: Exposure Draft of Proposed Amendments to IFRS 3 - Addressed the guideline for applying the acquisition method.	25 June 2005	
Revised IFRS 3 (2008) issued	10 January 2008	
Effective date of IFRS 3 (2008) (Revised 1)	1 July 2009	1 July 2010
Annual improvements: IFRS 3 amended for Annual Improvements to IFRSs 2010 - Focus on the measurement of non-controlling interests	6 May 2010	
Effective date of May 2010 to IFRS 3 (Revised 2)	1 July 2010	1 July 2010
Impairment of Assets	**IAS 36**	**FRS 136**
Exposure Draft E55 *Impairment of Assets*	May 1997	
IAS 36 *Impairment of Assets*	June 1998	
Effective date of IAS 36 (1998)	1 July 1999	
Phase I: IAS 36 Revised	31 March 2004	
Effective date of March 2004 revisions to IAS 36 (Revised 1)	1 April 2004	1 January 2006
Phase II: IAS 36 amended for Annual Improvements to IFRSs 2007 about disclosure of estimates used to determine a recoverable amount, which is based on fair values less costs to sell	22 May 2008	
Effective date of the May 2008 revisions to	1 January 2009	1 January 2010

IAS 36 (Revised 2)		
Annual improvements: IAS 36 amended for Annual Improvements to IFRSs 2009 about units of accounting for goodwill impairment testing using segments under IFRS 8 before aggregation	16 April 2009	
Effective date of the April 2009 revisions to IAS 36 (Revised 3)	1 January 2010	Has not been implemented at the date of writing (August 16, 2012)

Source: IASB (Undated) and MASB (Undated)

4.3 Indications that an asset (goodwill) may be impaired

This section aims to review indications that an asset[25] (goodwill) may be impaired. The indications are outlined in IAS 36 *Impairment of Assets* in its paragraph 12. The review assists in identifying appropriate indicators of goodwill impairment to be examined in this thesis.

IFRS 3 prohibits an amortisation of goodwill, and it requires companies to perform an impairment review annually, or more frequently if events or changes in circumstances indicate that the goodwill might be impaired, in accordance with IAS 36 (IASB, 2006c: IFRS 3, paragraph 55)[26]. The purpose of an impairment test of assets (inclusive of goodwill) is to ensure that the carrying amount of the assets reported on the balance sheet do not exceed

[25] According to IAS 36 *Impairment of Assets*, the term asset applies equally to an individual asset or a cash-generating unit containing goodwill (IASB 2006: IAS 36, paragraph 7). In addition, in IFRS 3, when the standard discusses the issue of whether or not to permit choice in the accounting treatment for goodwill, the term asset is replaced with goodwill as follow 'entities should not be allowed a choice between approaches (a) [straight-line amortisation but with an impairment test whenever there is an indication that the goodwill might be impaired – in BC137] and (b) [non-amortisation but with an impairment test annually or more frequently – in BC137]. Permitting such choices impairs the usefulness of the information provided to users of financial statements because both comparability and reliability are diminished' (IASB, 2006c: IFRS 3, Basis for Conclusions, BC138). Therefore, in this thesis, when the discussion involves the requirement of the standard, similar to IAS 36 (paragraph 7), the following wording is applied - indications that an asset (goodwill) may be impaired. When the discussion deals specifically with research questions formulated in this thesis and the findings, the following wording is applied - indications that goodwill may be impaired.

[26] FRS 136 (paragraph 11) (similar to IAS 36, paragraph 11) prohibits an impairment loss recognised for goodwill in a previous period to be reversed [MASB, 2006(c)]. This means that goodwill once impaired cannot be reinstated.

their recoverable amount[27] (IASB, 2006b: IAS 36, paragraph 1; Ernst and Young, 2008: 1034). The IASC (the predecessor of the IASB) in its Basis for Conclusions acknowledges that a company 'would use judgement in determining whether an impairment loss needed to be recognised' (IASB, 2006c: IFRS 3, BCZ24). To limit the risk of an over-optimistic or over-pessimistic estimation of the recoverable amount, IAS 36 provides safeguards in the form of a list of indicators that an asset (goodwill) may be impaired (IASB, 2006c: IFRS 3, BCZ24), though the standard emphasises that the list is not exhaustive (IASB, 2006b: IAS 36, paragraph 13).

The list of indicators, stated in paragraph 12 of the IAS 36 (equivalent to FRS 136), are grouped into external and internal sources of information (see Figure 4.2).

Figure 4.2: Indications that an asset (goodwill) may be impaired as outlined in FRS 136 (2006: paragraph 12)

External sources of information
1. Market value of the asset declined significantly - 'During the period, an asset's market value has declined significantly more than would be expected as a result of the passage of time or normal use.' (MASB, 2006c: FRS 136, paragraph 12a)
2. Significant changes with an adverse effect on the entity **[Economic condition indication]** - 'Significant changes with an adverse effect on the entity have taken place during the period, or will take place in the near future, in the technological, market, economic or legal environment in which the entity operates or in the market to which an asset is dedicated.' (MASB, 2006c: FRS 136, paragraph 12b)
3. Increased in the market interest rates - 'Market interest rates or other market rates of return on investments have increased during the period, and those increases are likely to affect the discount rate used in calculating an asset's value in use and decrease the asset's recoverable amount materially.' (MASB, 2006c: FRS 136, paragraph 12c)
4. **The market capitalisation indication** 'The carrying amount of the net assets of the entity is more than its market capitalisation.' (MASB, 2006c: FRS 136, paragraph 12d)
Internal sources of information

[27] The recoverable amount refers to the amount of cash flow which would be derived from the asset either from selling it at the present moment or from continuing using it in the future (Ernst and Young, 2008: 1034).

5.	'Evidence is available of obsolescence or physical damage of an asset.' (MASB, 2006c: FRS 136, paragraph 12e)
6.	Significant changes with an adverse effect on the entity which affect the asset - 'Significant changes with an adverse effect on the entity have taken place during the period, or are expected to take place in the near future, in the extent to which, or manner in which, an asset is used or is expected to be used. These changes include the asset becoming idle, plans to discontinue or restructure the operation to which an asset belongs, plans to dispose of an asset before the previously expected date, and reassessing the useful life of an asset as finite rather than indefinite'. (MASB, 2006c: FRS 136, paragraph 12f)
7.	'Evidence is available from internal reporting that indicates that the economic performance of an asset is, or will be, worse than expected.' (MASB, 2006c: FRS 136, paragraph 12g)
8.	Dividend for an investment in a subsidiary, jointly controlled entity or associate - 'Dividend from a subsidiary, jointly controlled entity or associate - for an investment in a subsidiary, jointly controlled entity or associate, the investor recognises a dividend from the investment and evidence is available that: (i) the carrying amount of the investment in the separate financial statements exceeds the carrying amounts in the consolidated financial statements of the investee's net assets, including associated goodwill; or (ii) the dividend exceeds the total comprehensive income of the subsidiary, jointly controlled entity or associate in the period the dividend is declared.' (MASB, 2006c: FRS 136, paragraph 12h)

Source: MASB (2006c: FRS 136, paragraph 12)

Turning to Figure 4.2, the researcher's views that of the eight indications provided by FRS 136, six indications (i.e. indications number 1, 3, 5-8) relate specifically to the assets. Information concerning these indications can only be accessed internally by the management. The remaining two indications relate to the economic environment in which the asset (goodwill) operates. These two indications are: the economic condition indication (i.e. number 2), and the market capitalisation indication (i.e. number 4). The market capitalisation indication will be further discussed in this chapter in identifying the recognition choice related to reporting goodwill impairment (see Section 4.6.3.2) and will be explored in the recognition study (see Chapter 9). The researcher has attempted to explore the influence of the economic condition indication (indication number 2), i.e. the financial crisis which experienced by Malaysian listed companies in 2008. The result shows that the financial crisis has no influence on the decisions to report goodwill impairment. Due to words constraint, the result for the economic condition is not reported in this thesis.

With regards to the market capitalisation indication, according to PricewaterhouseCoopers (2009: 1), if a company's market value is lower than the book value of the net assets (i.e. an existence of the market capitalisation indication) is not due to short term volatility in the market, the indicator represents one of the factors that can 'potentially increase the risk for impairment'. Ernst and Young (2011: 1083) added that the market capitalisation could possibly be a powerful indicator of impairment of assets (inclusive of goodwill). The audit firm notes that:

> 'Market capitalisation is, potentially a powerful indicator as, if it shows a lower figure than the book value of equity, it suggests the market considers that the business is overvalued.'
>
> (Ernst and Young, 2011: 1083)

Nonetheless, Ernst and Young (2011: 1083) noted that some CGUs may not be sensitive to the market capitalisation as an indicator. Thus, if the recoverable amount of the CGUs exceeds the market capitalisation, the audit firm suggested companies should disclose sufficient information to indicate the reasons for such a condition, as well as describing factors which may lead to impairment losses in the next year (Ernst and Young, 2011: 1083).

To assess whether the market capitalisation indication is an appropriate proxy for an indication that goodwill may be impaired, information regarding companies' reasons for reporting goodwill impairment will be analysed by looking at companies' annual reports. Detail information of the investigation will be carried out in the disclosure study (see Section 7.2).

4.4 Judgements and estimates involved in performing an impairment test of goodwill

The purpose of this section is to discuss the judgements and estimates involved in performing an impairment test of goodwill. The discussion aims to shed light on specific areas where managers may exercise their judgements and estimates. The areas of discretion identified will be used to form relevant variables in developing the hypotheses in Chapter 5 (see Sections 5.8 to 5.8.2.3).

Healy and Wahlen (1999: 366) argue that if financial reports are meant to convey information provided by managers about a company's performance, then accounting standards must allow managers to exercise judgement in producing such reports. This is because if managers are considered to be experts in the field (i.e. with regard to their company's performance), then, the judgements they exercise will enable them to produce financial reports which reflect the underlying economic values of their company (Healy and Wahlen, 1999: 366). Nonetheless, because auditing is imperfect, the use of judgements also creates an avenue for managers to manipulate company's earnings (Healy and Wahlen, 1999: 366) if they have the motive to do so.

In the case of goodwill impairment, if managers have an incentive to overstate or understate goodwill impairment losses, they can be selective in applying estimates and judgements while performing an impairment test of goodwill (Guler, 2007: 11; AbuGhazaleh et al., 2011: 169 and 180). Ernst and Young (2007: 1) identify two areas in an impairment test of assets (inclusive of goodwill) under IAS 36 which require managers to apply judgements and estimates. These are: in identifying CGUs in order to allocate goodwill acquired in business combinations, and in determining the recoverable amount of assets (inclusive of goodwill) (Ernst and Young, 2007: 1). The next two sections discuss the identification of CGUs (in Section 4.4.1) and the judgements and estimates in determining the recoverable amount of CGUs (in Section 4.4.2) respectively.

4.4.1 Identification of cash-generating-units[28] (CGUs) for an allocation of goodwill

IAS 36 acknowledges that the identification of CGUs requires judgements to be made (IASB, 2006b: IAS 36, paragraph 68; Ernst and Young, 2010: 7). This is because the identification process is influenced by how the business operation is monitored by managers, for example, should CGUs be based on product lines, business, or regional areas (Ernst and Young, 2010: 7).

[28] A *cash-generating-unit* is the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets (IASB, 2006b: IAS 36, paragraph 6).

Thus far, no studies have explored the relationship between how companies identify CGUs and their decisions in reporting goodwill impairment. Rather, what has been analysed is the number of CGUs and the decisions to report goodwill impairment losses (i.e. AbuGhazaleh et al., 2011). AbuGhazaleh et al. (2011: 179) argue that companies with multiple CGUs have greater flexibility in allocating their goodwill. Managers of companies with multiple CGUs could exploit the number of CGUs by accelerating, avoiding or understating reporting goodwill impairment losses (AbuGhazaleh et al., 2011: 179-180). For examples, to accelerate goodwill impairment losses, managers could allocate a large portion of the purchased goodwill to those CGUs that are anticipated to decline in value; and to avoid or understate goodwill impairment losses, the managers could allocate the purchased goodwill to CGUs that are anticipated to rise in value (AbuGhazaleh et al., 2011: 180). Similar to AbuGhazaleh et al. (2011), this thesis will analyse the number of CGUs and the decisions to report goodwill impairment losses (see Section 5.8.1).

4.4.2 Judgements and estimates involved in determining the recoverable amount of CGUs

In determining the recoverable amount of assets (inclusive of goodwill), managers are required to use assumptions and estimations (Ernst and Young, 2007: 1). Nobes (2006: 240) and Kvaal and Nobes (2010: 185) consider such assumptions and estimations to be 'covert options'. Kvaal and Nobes (2010: 185) elaborate that the covert options include the managers' computation of cash flows in arriving at the recoverable amount of assets (inclusive of goodwill), and in applying appropriate discount rates to the cash flow computed.

In the case of goodwill, when computing the recoverable amount of CGUs containing goodwill, a company has to choose the higher of fair value less costs to sell and value-in-use of the CGUs (MASB, 2006c: FRS 136, paragraph 74). In this thesis, managers' use of judgement in applying fair value less costs to sell will not be explored. This is because a study carried out by Carlin et al. (2009: 83 and 97), analysing the disclosure of goodwill impairment by 36 top Malaysian listed companies which implemented FRS 3 in 2006, revealed that

none of these companies disclosed that they had applied fair value less costs to sell exclusively as a basis of the recoverable amount. The managers' use of judgement in the value-in-use will be explored in this thesis. The next paragraphs discuss the application of value-in use.

In calculating the value-in-use of CGUs containing goodwill, managers are required to estimate expected cash flows from the continuing use of the assets, and to discount the cash flows to present value using the pre-tax discount rate (MASB, 2006c: FRS 136, paragraph 31; Ernst and Young, 2007: 7). Managers' expectations concerning possible variation in the value-in-use may be reflected, either through adjustment to the forecasted cash flow or the discount rate (FRS 136, paragraph 30-32).

According to PricewaterhouseCoopers (2008: 8), both the expected cash flows and discount rate are important factors in determining whether there is any impairment loss. In forecasting the cash flows, managers have to make a number of assumptions and estimations, e.g. about forecast sales volume and profit margins (PricewaterhouseCoopers, 2008: 8). Likewise, the discount rate which is applied by managers in computing the value-in-use does not come from application of a simple formula (PricewaterhouseCoopers, 2008: 8). Rather, the estimation of the discount rate requires managers to exercise judgement based on the overall valuation exercise (PricewaterhouseCoopers, 2008: 8). A change in the discount rate will have an impact on the recoverable amount (PricewaterhouseCoopers, 2008: 3).

Ideally to identify whether companies have over-estimated or under-estimated the calculation of the value-in-use, one would examine both the specific forecasted cash flows and the estimated discount rate employed. Nonetheless, the specific forecasted cash flows which are computed by companies in arriving at the value-in-use are not disclosed in annual reports. As a result, the analysis of the value-in-use is confined to the application of the discount rate. Thus, the discount rates will be employed as a test variable in formulating the hypotheses in Chapter 5 (see Section 5.8.2).

Additionally, in an attempt to identify the possibility of estimating the cash flow from the segment data, this thesis will explore whether the segment

result could be employed as a proxy for an indication that goodwill may be impaired (see Sections 6.5.2.2 and 7.3.3).

4.5 Dissenting opinions regarding an impairment test of goodwill

This section discusses the dissenting opinions of a few of the IASB members concerning an impairment test of goodwill. The discussion seeks to highlight the weakness of the impairment test and hence points to the possibility of companies exercising accounting choices related to goodwill impairment.

IFRS 3 was approved by 12 of the 14 board members; two board members dissented from the issuance of the standard (IASB, 2006c: IFRS 3, p. 309). Simultaneously, IAS 36 was approved by eleven members with three board members dissenting (IASB, 2006b: IAS 36, p. 1496). The key point which materialises through the dissenting opinions, both in the IFRS 3 and IAS 36, is that with the abolition of the amortisation of goodwill, the impairment test of goodwill implemented in IAS 36 does not meet the requirement of a 'rigorous and operational impairment test' (IASB, 2006b: IAS 36, Basis for Conclusions, Dissenting opinions, DO3; IFRS 3, Basis for Conclusions, DO14).

Specifically, two board members, namely, Messrs Cope and Leisenring were of the view that 'a more rigorous effort must be made to determine the recoverable amount of goodwill' (IASB, 2006b: IAS 36, Basis for Conclusions, Dissenting opinions, DO4). They agreed with the idea in the Exposure Draft of Proposed Amendments to IAS 36 which requires companies to carry out a two-step approach in the impairment test of goodwill (IASB, 2006b: IAS 36, Basis for Conclusions, Dissenting opinions, DO4). This approach is based on the two-step approach in SFAS 142 *Goodwill and Other Intangible Assets*, which is applied by US listed companies (IASB, 2006b: IAS 36, Basis for Conclusions, BC167b). In step one of the approach, a company is required to compare the recoverable amount of the CGUs to which goodwill is allocated with its carrying amount (IASB, 2006b: IAS 36 BC, BC160). If the carrying amount exceeds the recoverable amount, a company is required to proceed to the second step. In step two, a company must determine the fair value of each identifiable asset, liability, and contingent liability within the CGUs (IASB,

2006b: IAS 36 BC, BC163). Nonetheless, because of the complexity and costs of applying the two-step approach which outweigh its benefits, the IASB decided to retain the one-step approach as applied in the previous version of IAS 36 (IASB, 2006b: IAS 36, Basis for Conclusions, BC170).

In addition to the two-step approach of an impairment test of goodwill discussed above, the IASB has also considered a subsequent cash flow test as a solution to improve the reliability of an impairment test of goodwill (IASB, 2006b: IAS 36, Basis for Conclusions, BC194). This subsequent cash flow test, applied in the UK under FRS 11 *Impairment of Fixed Assets and Goodwill* (IASB, 2006b: IAS 36, Basis for Conclusions, BC194) is meant to correct the cash flow estimate applied in the computation of the value-in-use (IASB, 2006b: IAS 36, Basis for Conclusions, Dissenting opinions, DO8). It helps in safeguarding 'against over-optimism in the estimation of cash flows' (IASB, 2006b: IAS 36, Basis for Conclusions, Dissenting opinions, DO10).

However, the test was not accepted by the board members for two reasons (IASB, 2006b: IAS 36, Basis for Conclusions, BC198). Firstly, the IASB explains that the focus of the impairment test should be on avoiding companies with excessive write-downs (IASB, 2006b: IAS 36, Basis for Conclusions, Dissenting opinions, DO9). The IASB clarifies:

> '[T]he greater risk to the quality of financial reporting might be from entities trying to write-off goodwill without adequate justification in an attempt to 'manage' the balance sheet.'
>
> (IASB, 2006b: IAS 36, Basis for Conclusions, BC197).

Thus, the IASB claims that any subsequent cash flow test is misdirected (IASB, 2006b: IAS 36, Basis for Conclusions, DO9).

The second reason for rejecting the subsequent cash flow test is because the IASB views that the test could become extremely burdensome, especially for companies with a large number of CGUs (IASB, 2006b: IAS 36, Basis for Conclusions, BC197 (c)). If the test was required, these companies would have to re-perform the cash flow test every year within a five year period (IASB, 2006b: IAS 36, Basis for Conclusions, BC197 (c)).

In the end, the IASB decided to 'explore improving the reliability of impairment test of goodwill through disclosure requirements' (IASB, 2006b: IAS 36, Basis for Conclusions, BC198). This was done by requiring companies to disclose enough information to allow users to evaluate the reliability of the impairment test and at the same time maintaining an appropriate balance in the magnitude of the disclosures (IASB, 2006b: IAS 36, Basis for Conclusions, BC208).

The dissenting opinions discussed above have two implications for this thesis. Firstly, the comments raised by the board members of the IASB regarding the lack of rigour in the impairment test of goodwill suggest that there is a lack of a strong control mechanism, such as the two-step approach and the subsequent cash flow test put in place by the IASB under its IAS 36 *Impairment of Assets*. Relying on an impairment-only approach as a way of ensuring that the carrying amount of goodwill reported on the balance sheet does not exceed its recoverable amount, and at the same time allowing managers to exercise judgements and estimates (see Section 4.4) without a strong control mechanism in place, may possibly create an avenue whereby managers can exercise accounting choices related to goodwill impairment, especially if they have the motive to do so.

The second implication of the review is that, in issuing IFRS 3 and revising IAS 36, IASB relies on companies' disclosure to police the measurement rules related to goodwill impairment, rules which they do not impose (i.e. the two-step approach of an impairment test or the subsequent cash flow test). This leads this thesis to examine (in Chapter 7) whether disclosure would be able to provide enough information concerning a company's reasons for reporting goodwill impairment and thus provide empirical evidence on whether the actions of the IASB and thus the MASB in relying on companies' disclosure is successful or not (see Section 10.4.4).

4.6 Accounting choices related to goodwill impairment after the implementation of FRS 3

The purpose of this section is to specify accounting choices related to goodwill impairment which will be examined in this thesis. This section covers

three areas. Section 4.6.1 discusses the notion of accounting choices which cannot be directly observed but exists in the form of the implementation decisions. Section 4.6.2 discusses the process of identifying the accounting choice. Section 4.6.3 discusses the accounting choices related to goodwill impairment, which will be investigated in the measurement study (in Section 4.6.3.1) and the recognition study (in Section 4.6.3.2).

4.6.1 Implementation decisions as accounting choices related to goodwill impairment

The implementation of IFRS 3 resulted in an impairment-only approach in accounting treatment for acquired goodwill (IASB, 2006c: IFRS 3, Dissenting opinions, DO10). One of the stated reasons for adopting the approach is because in formulating the IFRS 3, the IASB intends that a company should not be allowed the previous explicit choice between two accounting methods for the acquired goodwill. The IASB expresses the view that:

> '[E]ntities should not be allowed a choice between approaches (a) [straight-line amortisation but with an impairment test whenever there is an indication that the goodwill might be impaired] and (b) [non-amortisation but with an impairment test annually or more frequently]. Permitting such choices impairs the usefulness of the information provided to users of financial statements because both comparability and reliability are diminished.'
>
> (IASB, 2006c: IFRS 3, Basis for Conclusions, BC138)

This view regarding goodwill is consistent with the aim of the IASB in general, which is 'not to permit choices in the accounting treatment' (IASB 2006a: Preface to International Financial Reporting Standards, paragraph 13). The impairment-only approach required by IFRS 3 implies that there is no longer a choice of accounting method related to 'subsequent accounting for goodwill' exercised by companies.

On the other hand, three issues discussed in this thesis suggest that it is possible for companies to exercise accounting choices related to goodwill impairment. Firstly, the definition of accounting choice offered by Fields et al. (2001: 256) and the review of the various definitions of accounting choice

in Chapter 2 (see Section 2.2.1) suggest that accounting choice exists not only through the selection of accounting methods but also via implementation decisions. The implementation decisions, according to Francis (2001: 311) in her review of the definition provided by Fields et al. (2001), include estimates and judgements applied by managers in implementing GAAP. The view of Francis (2001: 311) concerning the estimates and judgements is in line with DeFond and Jiambalvo (1994: 149) who see the estimates and judgements exercised by managers as 'management choices' (see Section 2.2.1).

Secondly, the review of the requirements of IFRS 3, focusing on issues related to an impairment test of goodwill, shows that managers are given discretion to apply their assumptions and judgements, especially in determining the recoverable amount of assets (inclusive of goodwill) (see Section 4.4). Commenting on IAS 36, Nobes (2006: 240) and Kvaal and Nobes (2010: 185) indicate that IAS 36 is one of the IFRSs that include 'covert options' (see Section 4.4.2). Kvaal and Nobes (2010) note:

> '[T]here are several covert options and estimations in the issue of impairment, such as whether to recognise impairments, how to measure cash flows, and what discount rate to use.'
>
> (Kvaal and Nobes, 2010: 185)

Thirdly, the review of the dissenting opinions regarding the impairment test of goodwill (in Section 4.5) points to the lack of a control mechanism, such as the two-step approach and the subsequent cash flow test put in place by the IASB in its IAS 36 *Impairment of Assets*, after the prohibition of an amortisation of goodwill.

The above issues suggest that, although there is no longer an explicit choice of accounting method after the implementation of IFRS 3, there are covert options and estimations available to managers performing an impairment test of goodwill. Given the lack of strong control mechanism put in place in the impairment test of goodwill after the impairment-only approach as required under IFRS 3 (see Section 4.5), there could possibly be a scope for managers to exercise accounting choices in the form of the implementation decisions if they have the motive to do so. For example, to prevent debt covenant

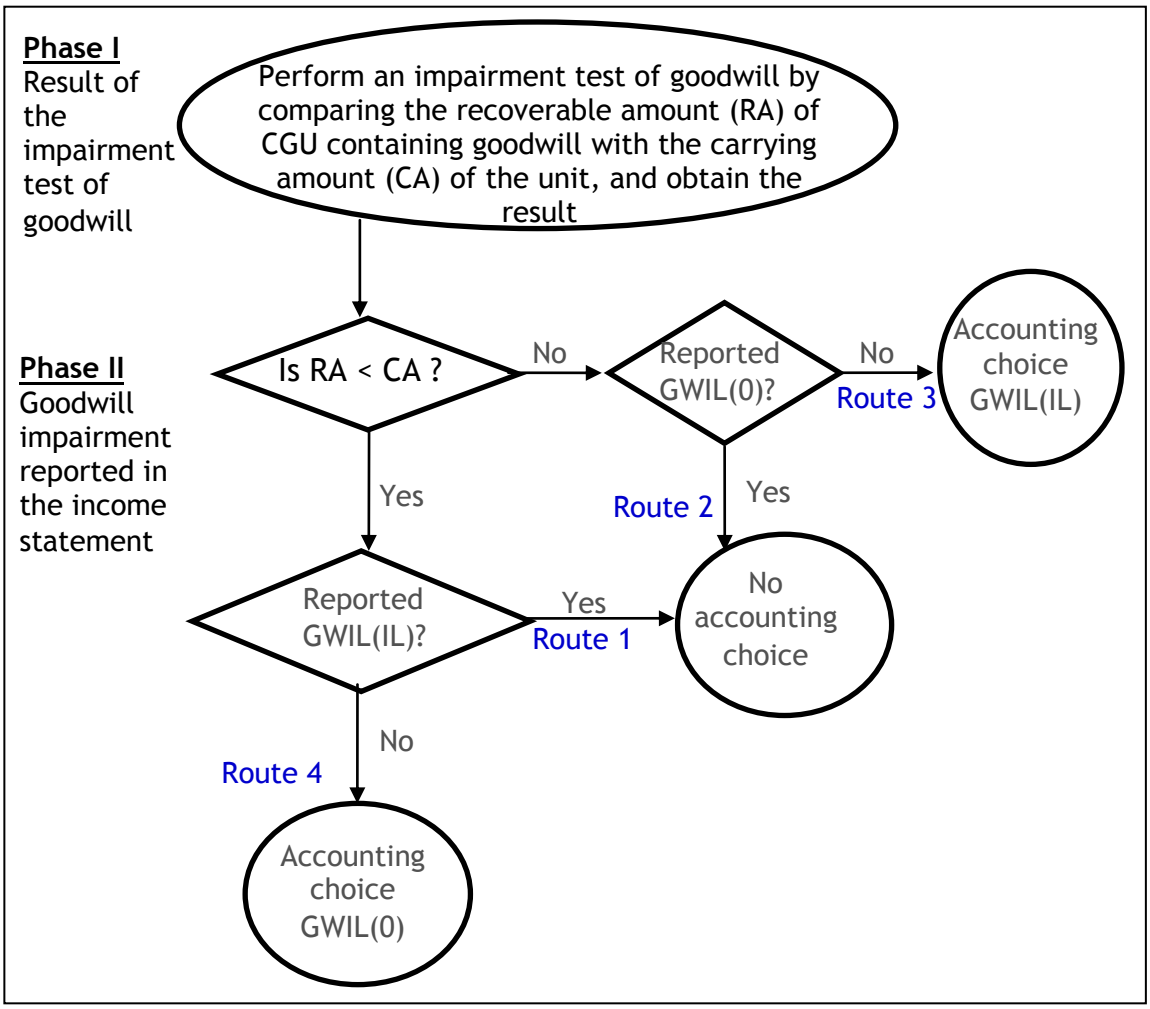
violations (see Section 5.5), managers could allocate goodwill to a high growth CGUs (see Section 4.4.1) and thus report zero goodwill impairment.

4.6.2 Process of identifying accounting choices related to goodwill impairment after the implementation of FRS 3

Figure 4.3 presents a flowchart to enable a researcher to identify accounting choices related to goodwill impairment. The figure illustrates two phases that are involved in identifying the accounting choice. The first phase is when companies perform an impairment test of goodwill by comparing the recoverable amount of a CGU containing goodwill with the carrying amount of that unit. This gives the initial result of the impairment test. However, at this phase, the result is not disclosed in the annual report and hence not made publicly available.

The second phase is when managers decide how they wish to report the result (obtained in the first phase) in the income statement. In this second phase, routes 1 and 2 portray situations in which there is no accounting choice exercised that conflicts with the expectations of the accounting standard. This is because the goodwill impairment reported immediately in the income statement (in Phase II) reflects the result of the initial impairment test (in Phase I). For example, in route 1, by reporting goodwill impairment losses immediately in the income statement when the result of the impairment test shows that the recoverable amount of the CGUs is lower than the carrying amount of the unit, the company is following the requirement of FRS 136. Similar reasoning applies to route 2 where the company reports zero impairment, consistent with FRS 136, as the recoverable amount is higher than the carrying amount.

Figure 4.3: An ideal flowchart to identify accounting choices related to goodwill impairment



GWIL(0) denotes Zero goodwill impairment reported on the income statement
GWIL(IL) denotes Goodwill impairment losses reported on the income statement
CGU denotes Cash-generating-unit

Accounting choice, which is in the form of implementation decisions, comes into the picture when the managers decide to report zero goodwill impairment in the income statement (i.e. route 4 in Phase II) although the result that they obtain in Phase I indicates that they should report goodwill impairment losses. With this decision, the managers would then revisit the initial calculation obtained in Phase I in order to record an appearance of route 2 in Phase II. Similarly, accounting choice would occur when managers make a decision to report goodwill impairment losses in the income statement (i.e. route 3 in Phase II) even though the result that they obtain in Phase I indicate that they should report zero goodwill impairment. These choices are

not disclosed openly because the managers revisit the initial calculation to use different estimates.

Figure 4.3 highlights two important points. Firstly, there are two types of accounting choice related to goodwill impairment which could be exercised by Malaysian listed companies which implemented FRS 3. These are: (i) accounting choice related to reporting a zero goodwill impairment in the income statement when there should be an impairment loss reported, and (ii) accounting choice related to reporting a goodwill impairment losses in the income statement when there should be a zero impairment reported.

Secondly, if a company discloses the recoverable amount and the carrying amount of the CGUs in the annual reports (i.e. the result of the impairment test in Phase I), identifying accounting choices related to goodwill impairment becomes a straightforward process. However, such disclosure is not the case. The Exposure Draft of the revised IAS 36 included a disclosure requirement whereby companies were required to disclose the 'amount by which the unit's recoverable amount exceeds its carrying amount' [IASB, 2002: Exposure Draft of Revised IAS 36, C69(c), 151]. However, the proposal was not accepted, as the IASB was concerned about the comments made by the respondents to the Exposure Draft and the field visit participants that disclosing the values would cause significant commercial harm to companies [IASB, 2006b: IAS 36, Basis for Conclusions, BC 207(b)]. For example, users of financial statements might use the quantitative disclosure as a basis for initiating litigation against companies in cases where the assumptions stated in the financial statement are inaccurate [IASB, 2006b: IAS 36, Basis for Conclusions, BC 207 (b)].

Because the information concerning the amount by which the unit's recoverable amount exceeds its carrying amount (see Phase I of Figure 4.3) is not disclosed in the annual reports, identifying accounting choices related to goodwill impairment is a challenging task. Sections 4.6.3 to 4.6.3.2 discuss accounting choices related to goodwill impairment, which will be investigated via both the measurement and the recognition studies.

4.6.3 Researching accounting choices related to goodwill impairment by Malaysian listed companies after the implementation of FRS 3

This section discusses the accounting choices related to goodwill impairment which will be researched in the measurement study (see Section 4.6.3.1) and the recognition study (see Section 4.6.3.2).

4.6.3.1 Measurement study related to goodwill impairment

IASB in its Framework for the Preparation and Presentation of Financial Statements defines measurement as 'the process of determining the monetary amounts at which the elements of the financial statements are to be recognised and carried in the balance sheet and income statement' (IASB, 2006d: Framework for the Preparation and Presentation of Financial Statements, paragraph 99). Based on this definition, the measurement study of this thesis focuses on the magnitude of goodwill impairment losses divided by prior year total assets (including goodwill), and zero otherwise reported on the income statement (see Section 1.3).

Analysing the magnitude of goodwill impairment losses (discussed above) is an approach which has been employed by prior studies in analysing asset write-offs in the 1980s to 1990s, when an accounting standard on long-lived assets in the US did not provide clear guidance on the timing and magnitude of assets write-off (Francis et al., 1996: 117) or when the standard (i.e. SFAS 121[29]) requires 'inherently subjective estimates and assumptions' (Riedl, 2004: 824). Francis et al. (1996: 117), for example, argue that during the period of their study (i.e. 1989-1992), the absence of clear guidelines allowed managers of US listed companies substantial discretion in terms of the timing and magnitude of asset write-offs. Additionally, Riedl (2004: 850) opines that the 'highly subjective estimates and assumptions' required by SFAS 121, could be one of the possible reasons for the asset write-offs of 1306 US listed

[29] SFAS 121: Statement of Financial Accounting Standards No. 121: *Accounting for the Impairment or Disposal of Long-Lived Assets,* issued in 1995.

companies from 1995-1998 which he analysed (post-SFAS 121) as not reflecting the underlying economic values of the companies.

In this thesis, the rationale for undertaking a measurement study of goodwill impairment may be explained as follows. After requiring companies to rely on an impairment-only approach as a way of safeguarding the goodwill balance (see Section 4.5), would the lack of a strong control mechanism in FRS 3 and FRS 136 on the impairment test of goodwill allow managers to be selective in their judgements and estimates in deciding the magnitude of goodwill impairment losses reported, should they have the motive to do so. Thus, the measurement study represents an indirect test of an accounting choice, in the sense that it neither identifies the accounting choices exercised nor tests the choice directly. Rather, the accounting choices exercised are inferred, based on companies' hypothesised motives in reporting goodwill impairment. For example, if a company's magnitude of goodwill impairment loss is influenced by earnings smoothing activity, in that, the larger the positive earnings surprise, the larger the magnitude of goodwill impairment loss reported, then in this case, there is a possibility for the company to exercise an accounting choice by reporting a goodwill impairment loss (see Section 5.6.4).

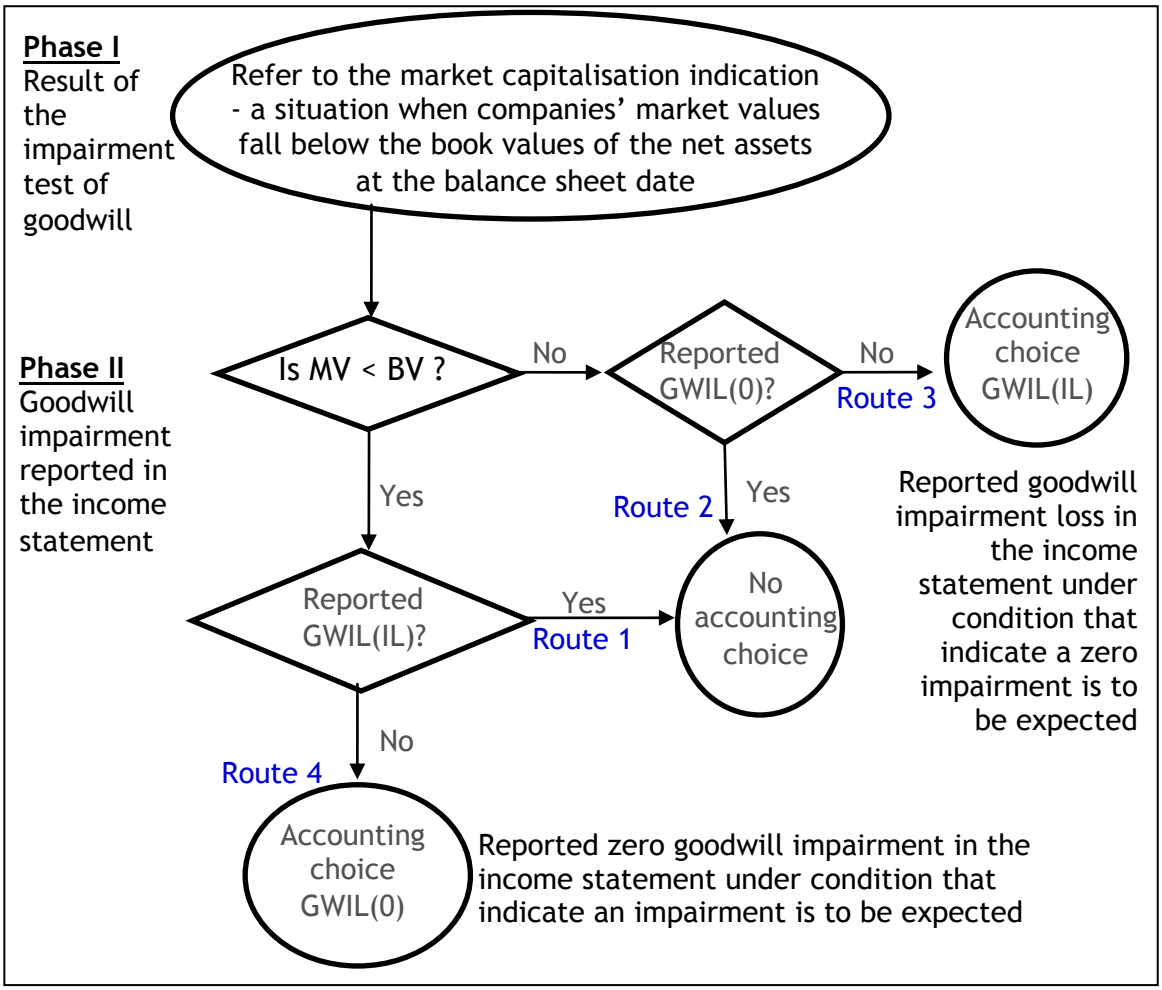
4.6.3.2 Recognition study related to goodwill impairment

IASB, in its Framework for the Preparation and Presentation of Financial Statements, defines recognition as 'the process of incorporating in the balance sheet or income statement an item that meets the definition of an element and satisfies the criteria for recognition set out in paragraph 83' (IASB, 2006d: Framework for the Preparation and Presentation of Financial Statements, paragraph 82). Based on this definition, the recognition study of this thesis focuses on decisions made by companies on whether to incorporate goodwill impairment losses or zero goodwill impairment in the income statement.

Following on this definition, to identify the recognition choice related to reporting goodwill impairment, the researcher makes use of the market capitalisation indication as discussed in Section 4.3. This is accomplished by

replacing the information in Phase I of Figure 4.3 with the market capitalisation indication (i.e. a situation when a company's market value falls below the book value of the net assets at the balance sheet date). Figure 4.4 illustrates the identification of this recognition choice. Thus, except for the market capitalisation indication, Figure 4.4 is similar to Figure 4.3 in its portrayal of two types of accounting choice – accounting choice related to reporting a zero goodwill impairment, and accounting choice related to reporting a goodwill impairment loss. The market capitalisation indication has been employed by prior studies (with slight modification) in analysing goodwill impairment of US listed companies (see Section 2.2.2), for example, Guler (2007) and Ramanna and Watts (2012).

Figure 4.4: Identification of recognition choices related to reporting goodwill impairment using the market capitalisation indication



GWIL(0) denotes Zero goodwill impairment reported on the income statement
GWIL(IL) denotes Goodwill impairment losses reported on the income statement
MV denotes the companies' market values
BV denotes the companies' book values of the net assets

Using the market capitalisation indication, the researcher argues that it is possible for companies to be regarded as exercising recognition choices when they are not following the market capitalisation indication. For the recognition choice related to reporting zero goodwill impairment, companies are considered to be exercising choice when their market capitalisation indications indicate that they should report goodwill impairment losses yet they report zero goodwill impairment (route 4). For the recognition choice related to reporting goodwill impairment loss, companies are considered to be exercising choice when they have no market capitalisation indication yet they report goodwill impairment losses in the income statement (route 3).

As noted in Section 3.2.5, semi-structured interviews with a senior manager in a big-4 audit firm, a financial analyst, a former standard setter, and a finance manager of a Malaysian listed company were carried out by the researcher at the early stage of the PhD study. The information gathered from the interviews suggest that for Malaysian listed companies, when the market values of companies are lower than the book values of their net assets within a single year, the market capitalisation indication might be considered by companies to be a temporary phenomenon. Accordingly, companies may not refer to the market capitalisation indication in reporting goodwill impairment. To create a stronger market capitalisation indication that goodwill may be impaired, instead of applying market capitalisation indication which occur within a year, the researcher focuses on market capitalisation indication which occur for three consecutive years.

Applying the market capitalisation indication for three consecutive years, a specific scenario which aims at testing the recognition choice related to reporting zero goodwill impairment is constructed. In this scenario, companies which have their market values lower than the book values of their net assets for three consecutive years are selected (i.e. the market capitalisation indication persists for three consecutive years). Within this group, companies which recognised zero goodwill impairment are considered to be exercising the recognition choice related to reporting zero goodwill impairment. They are tested against a control group of companies which faced similar conditions but reported goodwill impairment losses at the end of the third year. In this

scenario, there are 132 companies (before missing values) which have market values below the book values of their net assets for three consecutive years, with 96 companies recognising zero goodwill impairment for three consecutive years and 36 companies recognising goodwill impairment losses at the end of year 3. This scenario will be tested in the recognition study (see Section 9.2.1 for detail).

Ideally, the recognition choice related to reporting goodwill impairment losses should be tested as well by selecting companies which have their market values higher than the book values of their net assets for three consecutive years. However, the number of companies which recognised goodwill impairment losses in this scenario is too small (i.e. only two companies[30]) which renders this thesis unable to examine the recognition choice related to reporting goodwill impairment losses.

Unlike the measurement study which represents an indirect test of accounting choices related to goodwill impairment, the recognition study attempts to test the accounting choice directly. This is done by analysing companies' decisions in going against the market capitalisation indication by recognising zero goodwill impairment. Thus, the recognition choice related to reporting zero goodwill impairment is defined as follow:

> The decisions made by managers in term of their judgements and estimates employed during an impairment test of goodwill which lead them to recognise zero goodwill impairment when their market values are below the book values of their net assets for three consecutive years.

4.7 Summary and conclusions

This chapter has reviewed the requirements of IFRS 3, focusing on the impairment test of goodwill. The main conclusions of the chapter are as follow.

[30] There are 17 companies which have market values below the book values of their net assets for two consecutive years and reported goodwill impairment losses.

Firstly, the review of the phases of the development of IFRS 3 (in Section 4.2) has specified the phase of FRS 3 *Business Combinations* (and FRS 136 *Impairment of Assets*), which will be examined in this thesis.

Secondly, the indications that an asset (goodwill) may be impaired (in Section 4.3) are important given that the accounting choices related to goodwill impairment which may exist after the implementation of IFRS 3 are not directly observable, or as Nobes (2006: 239-240) calls them, 'covert options'. Using the market capitalisation indication, this thesis has specified the recognition choice related to goodwill impairment, which will be examined in Chapter 9 of this thesis (see Section 4.6.3.2). The discussion of the indications that an asset (goodwill) may be impaired has also highlighted the importance of analysing companies' disclosure of goodwill impairment. This leads to an empirical analysis of companies' disclosure, which will be discussed in more detailed in Chapter 7 (Disclosure study).

Thirdly, the discussion of judgements and estimates involved in performing an impairment test of goodwill (in Section 4.4) has demonstrated that the IFRS 3 provides covert options for managers while performing the impairment test. These judgements and estimates generate variables which will be further explored in formulating the hypotheses in Chapter 5 (see Section 5.8).

Fourthly, the dissenting opinions of few of the IASB members regarding the lack of rigour in the impairment test of goodwill (in Section 4.5) have pointed toward the lack of any strong control mechanism, such as the two-step approach and the subsequent cash flow test in its IFRS 3 and IAS 36. This issue is crucial particularly when companies rely on an impairment-only approach as a way of safeguarding the goodwill amount reported on the balance sheet. The review has also indicated that the IASB relies on companies' disclosure to police the measurement rule related to goodwill impairment. This lead this researcher to conduct a disclosure study in order to examine whether companies provide enough information concerning their reasons for reporting goodwill impairment, and thereby assisting the researcher to explore the types of accounting choice exercised by Malaysian listed companies (see Chapter 7).

Finally, the discussion of the accounting choices related to goodwill impairment after the implementation of FRS 3 (in Section 4.6) has assisted in defining the accounting choices which will be inferred from companies' hypothesised motives in reporting goodwill impairment in the measurement study (see Chapter 8). The discussion has also provided the operational definition of the recognition choice related to reporting zero goodwill impairment (see Chapter 9).

Chapter 5: Hypotheses Development

5.1 Introduction

Chapter 3 introduces the financial reporting environment of Malaysian listed companies before and after the implementation of FRS 3 *Business Combinations*, and discusses the ownership structures of these companies during the period of study. Chapter 4 continues with a discussion of the discretion available to companies in performing an impairment test of goodwill, such as CGUs and discount rates. Drawing on these two chapters and the two accounting choice perspectives reviewed in Chapter 2 (i.e. the contracting perspective, and the opportunistic behaviour perspective), the present chapter seeks to develop hypotheses to test both the measurement and the recognition studies related to goodwill impairment by Malaysian listed companies.

This chapter is structured into 10 main sections, including the introduction. Section 5.2 presents an overview of the hypotheses and a summary of the dependent variables for the measurement and recognition studies of goodwill impairment. Section 5.3 outlines the framework for the independent variables. Sections 5.4 to 5.9 formulate relevant hypotheses. Section 5.10 summarises the chapter.

5.2 Overview of the hypotheses and summary of the dependent variables

As noted in Section 5.1, the hypotheses discuss in the present chapter are designed for both the measurement and the recognition studies. These hypotheses (derived from the review of literature in Chapter 2, and the discussion of the context of study in Chapters 3 and 4), are grouped into six categories. These are: (i) economic factors, (ii) contracting perspective, (iii) opportunistic behaviour perspective, (iv) ownership structures, (v) discretion available to companies in performing an impairment test of goodwill, such as CGUs and discount rates, and (vi) company-specific factors. The first four

categories represent companies' motives while the fifth category (i.e. the discretion) reflects the amount of flexibilities, which companies have in measuring and recognising goodwill impairment. The last category comprises variables controlling for company-specific factors. Figure 5.1 maps these companies' motives and abilities with their relevant research questions and empirical chapters. Detailed discussion of these motives and abilities will be presented in Sections 5.4 to 5.8 upon developing the hypotheses.

Figure 5.1: Factors potentially influencing accounting choices related to goodwill impairment examined in the measurement and the recognition studies and corresponding research questions

Potential factors	Research questions (RQ) and empirical chapters (see Section 1.3)
Companies' motives	
(i) Economic factors (see Section 5.4)	RQ 4 - Measurement study RQ 9 - Recognition study
(ii) Contracting perspective (see Section 5.5)	RQ 5 - Measurement study RQ 10 - Recognition study
(iii) Opportunistic behaviour perspective (see Section 5.6)	RQ 6 - Measurement study RQ 11 - Recognition study
(iv) Ownership structures (see Section 5.7)	RQ 7 - Measurement study RQ 12 - Recognition study
Companies' abilities	
(i) Discretion[31] available in FRS 136 (see Section 5.8)	RQ 8 - Measurement study

Table 5.1 summarises the dependent variables and the unit of analysis for both the measurement and recognition studies related to goodwill impairment.

[31] The recognition study does not test the discretion available to managers in performing impairment test of goodwill, including the CGUs and discount rates, because these variables suffer from a high frequency of missing values which significantly reduces the number of observation (see Section 9.3).

Table 5.1: Summary of dependent variables for the measurement and recognition studies related to goodwill impairment

Dependent variable	Unit of analysis
Measurement study • The magnitude of goodwill impairment losses divided by prior year total assets (including goodwill), and zero otherwise reported on the income statement (GWIL – see Appendix 1 of the thesis).	• All companies which implement FRS 3 in the first three years of the standard taking effect, i.e. 2006/7 to 2008/9. These companies either have goodwill balance at the end of the financial year or reported goodwill impairment losses during the financial year. • This includes 1129 firm-years which reported zero goodwill impairment and 369 firm-years which reported goodwill impairment losses (see Table 6.2 in Section 6.4.2 for detailed of the data specification).
Recognition study • A dichotomous variable, equal to one when companies are considered as exercising a recognition choice related to reporting zero goodwill impairment, and zero otherwise [GWIL(0,1) – see Appendix 1 of the thesis].	• 132 companies (before missing values) which have their market values lower than the book values of their net assets for three consecutive years. 96 of these companies recognised zero goodwill impairment throughout the three years (the test group) while 36 of these companies recognised goodwill impairment losses at the end of the third year (the control group) (see Figure 9.3 for detail).

5.3 Framework for the independent variables: Factors potentially influencing the measurement and the recognition studies of goodwill impairment

Factors potentially influencing both the measurement and the recognition studies of goodwill impairment are grouped into six categories as shown in Table 5.2.

Table 5.2: Variables employed for the analysis of accounting choices related to goodwill impairment examined in the measurement and the recognition studies

Hypotheses	Variables	Section
1. Economic factors		**5.4**
H_1	Change in sales (ΔSales)	5.4.1
H_{2A}	Prior year earnings ($EARNINGS_{Prior}$)	5.4.2.1
H_{2B}	Current year pre-write-off earnings	5.4.2.2

	($EARNINGS_{PreGWILcurrent}$)	
Hypotheses	**Variables**	**Section**
H_3	Change in pre-write-off earnings ($\Delta EARNINGS_{preGWIL}$)	5.4.2.3
H_4	Change in operating cash flows (ΔOCF)	5.4.3
H_5	Book-to-market ratio (BTM)	5.4.4
H_6	Relative size of goodwill balance (GWB)	5.4.5
2. Contracting perspective		**5.5**
H_7	Leverage (DEBTRATIO)	5.5
3. Opportunistic behaviour perspective		**5.6**
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With regard to accounting choices, this thesis focuses on two perspectives: the contracting perspective (see Section 2.3.1) and the opportunistic behaviour perspective (see Section 2.3.2). Both these perspectives were developed from prior studies investigating listed companies in developed economies, mainly in the US and UK, which were reported to have dispersed ownership. To assess the applicability of these perspectives to Malaysian listed companies, found to have concentrated ownership, the formulation of the hypotheses involves two stages.

During the first stage of formulating the hypotheses, the measurement study of this thesis attempts to compares the findings from the analyses of Malaysian companies with the findings of AbuGhazaleh et al. (2011) in their study of UK listed companies implementing IFRS 3 from 2005 to 2006. Although there are measurement studies analysing goodwill impairment by US listed companies (e.g. Beatty and Weber, 2006; Guler, 2007; Zang, 2008; Ramanna and Watts, 2012), the analysis documented by AbuGhazaleh et al. (2011) is selected as a comparison mainly because listed companies in both Malaysia and UK apply IFRS 3 *Business Combinations*, whereas listed companies in the US, implement SFAS 142[32] *Goodwill and Other Intangible Assets*. Thus, for the purposes of comparing the results, the first regression model employ in the measurement study (i.e. Model 1 - see Section 8.3.3 for detailed of the model specifications) closely follow the study of AbuGhazaleh et al. (2011). Specifically, Model 1 replicates variables testing the economic factors, contracting perspective, and opportunistic behaviour perspective which are employed by AbuGhazaleh et al. (2011).

However, unlike AbuGhazaleh et al. (2011: 178-179), the model tests neither corporate governance variables (e.g. the number of independent non-executive directors and separation of chairman and CEO - see Table 8.4 for detail) nor a control variable (which assesses whether a company is cross-listed on the US stock exchange).

Corporate governance variables are not explored in this thesis as this thesis focuses on analysing the motives and abilities of companies in reporting goodwill impairment. Due to the nature of the information required and the poor database coverage for Malaysian listed companies, many of the variables testing these motives and abilities require manual collection through company annual reports. Examples include information on CEOs, variables testing discretion, such as CGUs and discount rates, and variables testing the

[32] IFRS 3 is a result of joint effort between IASB and US FASB (see Section 4.2 for detailed discussion). Both IFRS 3 and SFAS 142 prohibit amortisation of goodwill and require companies to perform an annual impairment test of goodwill. Nevertheless, SFAS 142 differs from IFRS 3 with respect to the transitional period given to US listed companies, allocation of goodwill to reporting unit instead of CGU in IFRS 3, the 2-step approach in an impairment test of goodwill, and the requirement to apply fair values.

ownership structures of companies. Moreover, for the variables testing ownership structures, care needs to be taken in order to differentiate between shares held by company directors and those held by outside shareholders (see Footnote 40 in Section 5.7.2). Given the extensive manual collection of data required, and since the main aim of the thesis is to assess the applicability of the contracting and opportunistic behaviour perspectives in companies with ownership structures that differs from those listed companies in developed economies (e.g. the US and UK), the researcher decided to trade-off testing the corporate governance variables against the comprehensive analysis of company ownership structures.

A cross-listing variable is not tested in this thesis due to a lack of companies. Mohd Ghazali (2004: 177) found that only three of the top 100 listed companies she examined had foreign listings.

After following as closely as possible the study of AbuGhazaleh et al. (2011) in the first stage of the hypotheses development, the second stage involves contextualising the regression model for the Malaysian environment. To accomplish this aim, Models 2(a)(i) to 2(h)(ii) are constructed with three purposes (see Section 8.3.3 for detail). Firstly, to incorporate variables which capture the ownership structures of Malaysian listed companies. Secondly, to include variables which are pertinent to understanding the measurement of goodwill impairment but which are not tested by AbuGhazaleh et al. (2011). Thirdly, to improve $EARNINGS_{Prior}$, as employed by AbuGhazaleh et al. (2011), by replacing the variable with $EARNINGS_{PreGWILcurrent}$ and $\Delta EARNINGS_{preGWIL}$.

The next section discusses in detail the development of all the hypotheses for the measurement and recognition studies of goodwill impairment. Appendix 1 of the thesis presents a summary of these hypotheses.

5.4 Economic factors

In the studies of asset write-offs and goodwill impairment, economic factors refer to factors which may affect the underlying economic performance of companies' assets (inclusive of goodwill) (Riedl, 2004: 830). According to Wilson (1996: 172), the credibility of the findings of assets write-off and

goodwill impairment which point to the evidence of 'manipulation' depends on the extent to which the studies control for the economic factors. As a result, variables which aim to capture the economic factors have been incorporated in studies of asset write-off (e.g. Francis et al., 1996; Riedl, 2004; AbuGhazaleh et al., 2011).

An ideal economic factor would take account of managers' unbiased expectations of future performance of the assets (Riedl, 2004: 830). In the case of goodwill, an ideal economic factor of goodwill impairment would comprise managers' unbiased expectations of future performance of the CGUs containing goodwill (AbuGhazaleh et al., 2011: 173). Nonetheless, because managers' expectations are generally unobservable (Riedl, 2004: 830; AbuGhazaleh et al., 2011: 173), proxies are employed to reflect certain parts of these expectations (Riedl, 2004: 830; AbuGhazaleh et al., 2011: 173).

To reflect the expectations of managers, AbuGhazaleh et al. (2011) employ five empirical proxies, i.e., change in sales, prior year earnings, change in operating cash flows, book-to-market ratio, and relative size of goodwill balance. As a starting point, as noted in Section 5.3, this thesis attempts to compare analyses of Malaysian data with the findings of AbuGhazaleh et al. (2011) in their analysis of UK listed companies implementing IFRS 3. Thus, the five empirical proxies which have been employed by AbuGhazaleh et al. (2011) will also be employed in this thesis. However, due to the limitation of a company's prior year earnings as employed by AbuGhazaleh et al. (2011) (see Section 5.4.2.1), two additional variables will be included as proxies for the economic factors, i.e., current year pre-write-off earnings (see Section 5.4.2.2) and change in pre-write-off earnings (see Section 5.4.2.3). These additional variables will be tested in separate regression models (see Section 8.3.3 for the model specification). Therefore, seven variables in total are employed in this thesis to test the influence of the economic factors on the measurement and the recognition studies of goodwill impairment by Malaysian listed companies. These are: ΔSales, ΔOCF, BTM, GWB, $EARNINGS_{prior}$, $EARNINGS_{PreGWILCurrent}$, and $\Delta EARNINGS_{preGWIL}$.

The selection of these empirical proxies, as acknowledged by Riedl (2004) and AbuGhazaleh et al. (2011), raises an important issue which requires

explanation. These empirical proxies measure the economic performance of a company rather than being specific to assets (Riedl, 2004: 831) or to CGUs containing goodwill (AbuGhazaleh et al., 2011: 173). According to Riedl (2004: 831), it is difficult to capture the specific attributes of assets such as sales, earnings, or cash flows, as such information is generally unavailable. Likewise, AbuGhazaleh et al. (2011: 173) explain that 'no financial information is publicly available at the CGUs level'. For this reason, both Riedl (2004) and AbuGhazaleh et al. (2011) include neither the economic performance of specific assets (Riedl, 2004) nor CGUs containing goodwill (AbuGhazaleh et al., 2011) when considering the economic factors. Similar to Riedl (2004) and AbuGhazaleh et al. (2011), this thesis does not capture the economic performance which is specific to CGUs containing goodwill as a test variable. Nevertheless, the disclosure study of this thesis (see Chapter 7) attempts to explore the performance of CGUs by looking at the segment result containing goodwill and comparing this result with companies' financial performance and their market capitalisation in selected companies (see Table 7.3 for an example of this analysis). The findings of the disclosure study confirm the difficulties in obtaining information concerning CGUs as explained by Riedl (2004: 831) and AbuGhazaleh et al. (2011: 173), i.e., it is challenging to capture the economic performance of CGUs containing goodwill, especially when the goodwill is allocated to a number of CGUs and the allocation of goodwill to each of the CGUs (or segment results) is not clearly disclosed.

Next, Sections 5.4.1 to 5.4.5 discuss the development of the hypotheses for the economic factors.

5.4.1 Change in sales (∆Sales)

Change in sales aims to capture accrual-related performance attributes (Riedl, 2004: 831; AbuGhazaleh et al., 2011: 180). An improvement in sales suggests that a company is performing well, which reflects the recoverability of asset values (inclusive of goodwill) (AbuGhazaleh et al., 2011).

Prior studies analysing measurement (i.e. AbuGhazaleh et al., 2011 – UK study) and recognition (i.e. Guler, 2007 – US study) of goodwill impairment

predict a negative association between change in sales and reporting goodwill impairment losses. Their empirical results provided mixed findings. In term of the univariate analysis, AbuGhazaleh et al. (2011: 186) found that the median change in sales for the write-off companies is significantly lower than the non-write-off companies (at p-value less than 0.01). However, the mean change in sales between the two groups is not statistically significant[33].

Guler (2007: 89) documented that both the median and mean change in sales for the write-off group is significantly lower than the non-write-off groups (at p<10%). To her, the result of the univariate analysis suggests that the write-off companies exhibit worse financial performance than the non-write-off companies (p. 31). As for the multivariate analysis, AbuGhazaleh et al. (2011: 190) observed the change in sales to be non-significance in explaining companies' measurement of goodwill impairment losses while Guler (2007: 72) found the variable to be marginally significant (at p-value less than 0.10) in explaining the recognition of goodwill impairment.

In this thesis, and similar to AbuGhazaleh et al. (2011: 178), change in sales is defined as change in sales from prior period to current period, divided by total assets at the end of prior period[34] (see Appendix 1 of the thesis). The following hypothesis is developed both in a null form and an alternate form:

$H_{1\text{-Null}}$: *Ceteris paribus*, there is no significant association between companies' decisions in reporting goodwill impairment losses and change in sales.

$H_{1\text{-Alternative1}}$: *Ceteris paribus*, there is a significant negative association between companies' decisions in reporting goodwill impairment losses and change in sales.

[33] The fact that the mean and median change in sales as employed by AbuGhazaleh et al. (2011) differs significantly raises the issue of skewed data, which is not addressed by that study (see Section 8.2.2.1).

[34] In this thesis, total assets at the end of prior period are employed because for Malaysian listed companies, Datastream does not provide information concerning the total assets at the beginning of the current period.

$H_{1\text{-Alternative2}}$: *Ceteris paribus*, there is a significant positive association between companies' decisions in reporting goodwill impairment losses and change in sales.

The null hypothesis is no significant association between companies' decisions in reporting goodwill impairment losses and change in sales. There are two alternatives hypothesis.

$H_{1\text{-Alternative1}}$ is based on the assumption that companies do not make choices which conflict with economic factors. Finding a significant negative association in $H_{1\text{-Alternative1}}$ indicates that the poorer the company's performance (reflected as a decline in value of change in sales), the greater the likelihood of, or the greater the magnitude of, goodwill impairment losses reported by the company. By recognising or measuring goodwill impairment losses when sales are falling, managers are reflecting their expectations of future performance of the asset (based on past performance) at a firm-level. Thus, in this case, there is no accounting choice exercised as managers are complying with FRS 3 and FRS 136.

$H_{1\text{-Alternative2}}$ is based on the assumption that companies do make choices which conflict with economic factors. Finding a significant positive association in $H_{1\text{-Alternative2}}$ suggests that the poorer the company's performance (reflected as a decline in value of change in sales), the lower the likelihood of, or the lower the magnitude of, goodwill impairment losses reported by the company. By not recognising goodwill impairment losses or reporting lower amount of goodwill impairment losses when sales are falling, managers are possibly attempting to avoid goodwill impairment losses, or reporting lower magnitude of impairment losses, hoping their companies' performance will improve in the future. In such cases, the managers' decisions in reporting goodwill impairment losses do not reflect their expectations of the future performance of the asset at a firm-level, which may point to the possibility of accounting choices being exercised.

5.4.2 Companies' pre-write-off earnings

Companies' pre-write-off earning is another measure of a company's performance (Riedl, 2004: 831; AbuGhazaleh et al, 2011: 180). Prior studies (e.g. Riedl, 2004: 831; Guler, 2007: 23; AbuGhazaleh et al., 2011: 180) hypothesise that the worse the company's performance, the higher the likelihood of, or the magnitude of, goodwill impairment losses reported. In employing the pre-write-off earnings, prior studies either make use of companies' earnings at one specific point in time (e.g. prior year earnings in AbuGhazaleh et al., 2011: 170) or employ a change in pre-write-off earnings from prior year to current year (e.g. Riedl, 2004: 829; Guler, 2007: 21 and 23). This thesis has employed both measures of earnings and tested them in separate random-effects tobit regression models. The next Section 5.4.2.1 discusses the prior year earnings as employed by AbuGhazaleh et al. (2011).

5.4.2.1 Prior year earnings ($EARNINGS_{Prior}$)

AbuGhazaleh et al. (2011: 178) employ prior year earnings ($EARNINGS_{Prior}$) as one of the economic factors. They (p. 178) define earnings as 'return on assets for company i at the end of t-1 (measured as pre-tax profit divided by total assets)'. This variable faces three limitations.

Firstly, the definition of prior year earnings provided by AbuGhazaleh et al. (2011) does not clearly explain whether the pre-tax profit is adjusted for (added back) goodwill impairment losses, yet for other variables(e.g. BATH[35] and SMOOTH), AbuGhazaleh et al. (2011: 178) specify that the earnings figure employed in testing big bath reporting is computed based on pre-write-off earnings. Thus, it is assumed that the company's prior year earnings ($EARNINGS_{Prior}$) employed by AbuGhazaleh et al (2011) is not adjusted for (added back) goodwill impairment losses. To overcome this limitation in this thesis, a sensitivity analysis is carried out by replacing companies' prior year

[35] BATH is defined as 'change in company i's pre-write-off earnings from t -1 to t deflated by total assets at the end of t -1, when this change is below the median of non-zero negative values of this variable, and zero otherwise' (AbuGhazaleh et al., 2011: 178).

earnings ($EARNINGS_{Prior}$) with prior year pre-write-off earnings ($EARNINGS_{PreGWILprior}$) (see Sections 8.5.2.3 and 8.6.2.1).

Secondly, it is not clear why managers would refer to prior year earnings in making decisions in reporting goodwill impairment in the current year. Francis et al. (1996: 123) argue that companies' current year earnings may also influence the timing in reporting goodwill impairment losses. This has led the researcher to employ an additional variable - current year pre-write-off earnings ($EARNINGS_{PreGWILcurrent}$) (see Section 5.4.2.2).

Thirdly, the prior year earnings ($EARNINGS_{Prior}$) measure a company's performance at one specific point in time. Riedl (2004: 831) argues that managers might base their decisions to write down the assets by looking at the change in the company's performance (i.e. change in pre-write-off earnings from the prior year to the current year). This limitation has led the researcher to incorporate change in pre-write-off earnings ($\Delta EARNINGS_{preGWIL}$) as another variable for the economic factors (see Section 5.4.2.3).

For the purpose of comparing the result of this thesis with the UK data, prior year earnings ($EARNINGS_{Prior}$) as employed by AbuGhazaleh et al. (2011) is included in this thesis. AbuGhazaleh et al. (2011) hypothesise a negative association between prior year earnings ($EARNINGS_{Prior}$) and reporting goodwill impairment losses. The multivariate analysis documented by AbuGhazaleh et al. (2011: 190) reveals prior year earnings ($EARNINGS_{Prior}$) to be marginally significant (p-value less than 0.10) in explaining the measurement of goodwill impairment losses.

In this thesis, prior year earnings ($EARNINGS_{Prior}$) is defined as prior year net income[36] before extraordinary items[37] or preferred dividends, divided by total

[36] Net income before extraordinary items or preferred dividends is selected because this is the level of earnings which is employed by Malaysian listed companies in computing the earnings per share (for e.g. see Annual report – A & M Realty Berhad, 2006: 61). This approach is similar to Beattie et al. (1994: 792).

[37] In Malaysia, prior to the implementation of IFRSs, 'extraordinary items' was defined by FRS 108_{2004} *Net Profit or Loss for the Period, Fundamental Errors and Changes in Accounting Policies* (paragraph 6) as 'income or expenses that arise from events or transactions that are clearly distinct from the ordinary activities of the enterprise and, therefore, are not expected to recur frequently or regularly' (MASB, 2004b). The standard required such items to be disclosed on the face of the income statement, separately from the profit or loss on ordinary

assets at the end of prior year (see Appendix 1 of the thesis). The following hypothesis is developed both in a null form and an alternate form:

$H_{2A\text{-}Null}$: *Ceteris paribus*, there is no significant association between companies' decisions in reporting goodwill impairment losses and prior year earnings ($EARNINGS_{Prior}$).

$H_{2A\text{-}Alternative1}$: *Ceteris paribus*, there is a significant negative association between companies' decisions in reporting goodwill impairment losses and prior year earnings ($EARNINGS_{Prior}$).

$H_{2A\text{-}Alternative2}$: *Ceteris paribus*, there is a significant positive association between companies' decisions in reporting goodwill impairment losses and prior year earnings ($EARNINGS_{Prior}$).

The null hypothesis is no significant association between companies' decisions in reporting goodwill impairment losses and companies' prior year earnings ($EARNINGS_{Prior}$). There are two alternatives hypothesis.

$H_{2A\text{-}Alternative1}$ is based on the assumption that companies do not make choices which conflict with economic factors. Finding a significant negative association in $H_{2A\text{-}Alternative1}$ indicates that the poorer the company's performance (reflected in the lower $EARNINGS_{prior}$), the greater the likelihood of, or the greater the magnitude of, goodwill impairment losses reported by the company. By recognising or measuring goodwill impairment losses when prior year earnings are low, managers are reflecting their expectations of the future performance of the asset (based on past performance) at a firm-level. Consequently, there is no accounting choice exercised, as managers are complying with FRS 3 and FRS 136.

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activities (MASB, 2004b: FRS 108_{2004}, paragraph 5). However, after having a convergence policy towards the IFRSs, MASB, effective from January 1, 2006, prohibited the presentation of extraordinary items (MASB, 2006d: FRS 101 *Presentation of Financial Statements*, paragraph 87 - similar to IAS 1 issued by the IASB). The rationale for such prohibition is because extraordinary items arise from the normal business risks faced by an entity and do not warrant presentation in a separate component of the income statement (KPMG, 2005).

$H_{2A\text{-}Alternative2}$ is based on the assumption that companies make choices which conflict with economic factors. Finding a significant positive association in $H_{2A\text{-}Alternative2}$ suggests that the poorer the company's performance (reflected in the lower $EARNINGS_{prior}$), the lower the likelihood of, or the lower the magnitude of, goodwill impairment losses reported by the company. By not recognising goodwill impairment losses, or reporting a lower amount of goodwill impairment losses, when a company's prior year earnings is low, it is possible that managers are attempting to avoid goodwill impairment losses, or reporting a lower magnitude of impairment losses in hope that the companies' performance will improve in the future. Consequently, the managers' decisions in reporting goodwill impairment losses do not reflect their expectations of the future performance of the asset at a firm-level, which may point to the possibility of accounting choices being exercised.

5.4.2.2 Current year pre-write-off earnings ($EARNINGS_{PreGWILcurrent}$)

Thus far, no prior studies have examined current year pre-write-off earnings ($EARNINGS_{PreGWILcurrent}$) of companies. In this thesis, the variable is expected to be negatively associated with companies' decisions in reporting goodwill impairment losses, in that, the higher the current year pre-write-off earnings, the lower the likelihood of, or the magnitude of, goodwill impairment losses reported on the income statement. Current year pre-write-off earnings ($EARNINGS_{PreGWILcurrent}$) is defined as current year net income before extraordinary items or preferred dividends after adding back goodwill impairment losses, divided by total assets at the end of prior year (see Appendix 1 of the thesis). The following hypothesis is developed both in a null form and an alternate form:

$H_{2B\text{-}Null}$: *Ceteris paribus*, there is no significant association between companies' decisions in reporting goodwill impairment losses and current year pre-write-off earnings ($EARNINGS_{PreGWILcurrent}$).

$H_{2B\text{-}Alternative1}$: *Ceteris paribus*, there is a significant negative association between companies' decisions in reporting goodwill impairment

losses and current year pre-write-off earnings ($EARNINGS_{PreGWILcurrent}$).

$H_{2B\text{-}Alternative2}$: *Ceteris paribus*, there is a significant positive association between companies' decisions in reporting goodwill impairment losses and current year pre-write-off earnings ($EARNINGS_{PreGWILcurrent}$).

The null hypothesis is no significant association between companies' decisions in reporting goodwill impairment losses and current year pre-write-off earnings ($EARNINGS_{PreGWILcurrent}$). There are two alternatives hypothesis.

$H_{2B\text{-}Alternative1}$ is based on the assumption that companies do not make choices which conflict with economic factors. Finding a significant negative association in $H_{2B\text{-}Alternative1}$ indicates that the poorer the company's performance (reflected in the lower $EARNINGS_{PreGWILcurrent}$), the greater the likelihood of, or the greater the magnitude of, goodwill impairment losses reported by the company. By recognising or measuring goodwill impairment losses when the current year pre-write-off earnings are low, managers are reflecting their expectations of the future performance of the asset (based on past performance) at a firm-level. Consequently, there is no accounting choice being exercised, as managers are complying with FRS 3 and FRS 136.

$H_{2B\text{-}Alternative2}$ is based on the assumption that companies make choices which conflict with economic factors. Finding a significant positive association in $H_{2B\text{-}Alternative2}$ suggests that the poorer the company's performance (reflected in the lower $EARNINGS_{PreGWILcurrent}$), the lower the likelihood of, or the lower the magnitude of, goodwill impairment losses reported by the company. By not recognising goodwill impairment losses, or reporting lower amount of goodwill impairment losses, when a current year pre-write-off earnings is low, managers are possibly attempting to avoid goodwill impairment losses, or reporting a lower magnitude of impairment losses, in the belief that the companies' performance will improve in the future. Consequently, the managers' decisions in reporting goodwill impairment losses do not reflect their expectations of the future performance of the asset at a firm-level, which may point to the possibility of accounting choices being exercised.

5.4.2.3 Change in pre-write-off earnings ($\Delta EARNINGS_{preGWIL}$)

Change in pre-write-off earnings ($\Delta EARNINGS_{preGWIL}$) is employed by Riedl (2004: 829), and is another measure of a company's performance. Similar to improvement in sales (ΔSales), improvement in pre-write-off earnings from the previous year to the current year ($\Delta EARNINGS_{preGWIL}$) suggests that a company is performing well. Riedl (2004: 843) predicts a negative association between change in pre-write-off earnings ($\Delta EARNINGS_{preGWIL}$) and companies' decisions in taking the write-off. This means that the poorer the company's change in pre-write-off earnings ($\Delta EARNINGS_{preGWIL}$), the greater the magnitude of the write-off reported (Riedl, 2004: 843).

In this thesis, similar to Riedl (2004: 829), change in pre-write-off earnings ($\Delta EARNINGS_{preGWIL}$) is defined as change in a company's pre-write-off earnings from the prior period to the current period, divided by total assets at the end of the prior period. The pre-write-off earnings refer to net income before extraordinary items or preferred dividends after adding back goodwill impairment losses (see Appendix 1 of the thesis). This has led to the formulation of the following hypothesis, both in a null form and an alternate form:

$H_{3\text{-Null}}$: *Ceteris paribus*, there is no significant association between companies' decisions in reporting goodwill impairment losses and the change in pre-write-off earnings ($\Delta EARNINGS_{preGWIL}$).

$H_{3\text{-Alternative1}}$: *Ceteris paribus*, there is a significant negative association between companies' decisions in reporting goodwill impairment losses and the change in pre-write-off earnings ($\Delta EARNINGS_{preGWIL}$).

$H_{3\text{-Alternative2}}$: *Ceteris paribus*, there is a significant positive association between companies' decisions in reporting goodwill impairment losses and the change in pre-write-off earnings ($\Delta EARNINGS_{preGWIL}$).

The null hypothesis is no significant association between companies' decisions in reporting goodwill impairment losses and the change in pre-write-off earnings ($\Delta EARNINGS_{preGWIL}$). There are two alternatives hypothesis.

$H_{3\text{-}Alternative1}$ is based on the assumption that companies do not make choices which conflict with economic factors. Finding a significant negative association in $H_{3\text{-}Alternative1}$ indicates that the poorer the company's performance (reflected as a decline in the value of $\Delta EARNINGS_{preGWIL}$), the greater the likelihood of, or the greater the magnitude of, goodwill impairment losses reported by the company. By recognising or measuring goodwill impairment losses when a company's pre-write-off earnings are falling, managers are reflecting their expectations of the future performance of the asset (based on past performance) at a firm-level. Thus, in this case, there is no accounting choice being exercised as managers are complying with FRS 3 and FRS 136.

$H_{3\text{-}Alternative2}$ is based on the assumption that companies make choices which conflict with economic factors. Finding a significant positive association in $H_{3\text{-}Alternative2}$ suggests that the poorer the company's performance (reflected as a decline in value of $\Delta EARNINGS_{preGWIL}$), the lower the likelihood of, or the lower the magnitude of, goodwill impairment losses reported by the company. By not recognising goodwill impairment losses, or reporting a lower magnitude of goodwill impairment losses, when a company's change in pre-write-off earnings fall from prior year to current year, managers are possibly attempting to avoid goodwill impairment losses, or reporting lower magnitude of impairment losses, in the belief that the companies' performance will improve in the future. Thus, in this case, the managers' decisions in reporting goodwill impairment losses do not reflect their expectations of the future performance of the asset at a firm-level, which may point to the possibility of accounting choices being exercised.

5.4.3 Change in operating cash flows (ΔOCF)

Change in operating cash flows (ΔOCF) measures the cash-related performance attributes (Riedl, 2004: 831; AbuGhazaleh et al., 2011: 180). An

improvement in operating cash flows suggests that a company is performing well, which is likely to be reflected more in the return on investment in the asset (Riedl, 2004: 831) or goodwill (AbuGhazaleh et al., 2011: 180).

Prior studies analysing measurement of asset write-off (i.e. Riedl, 2004) or goodwill impairment (i.e. AbuGhazaleh et al., 2011) predict a negative association between change in operating cash flows (ΔOCF) and reporting the write-off. AbuGhazaleh et al. (2011: 190) found change in operating cash flows (ΔOCF) to be marginally significant (at p-value less than 0.10) in explaining the measurement of goodwill impairment losses.

In this thesis, similar to AbuGhazaleh et al. (2011: 178), change in operating cash flows (ΔOCF) is defined as change in operating cash flows from prior period to current period, divided by total assets at the end of prior period (see Appendix 1 of the thesis). The following hypothesis is developed both in a null form and an alternate form:

$H_{4\text{-Null}}$: *Ceteris paribus*, there is no significant association between companies' decisions in reporting goodwill impairment losses and change in operating cash flows (ΔOCF).

$H_{4\text{-Alternative1}}$: *Ceteris paribus*, there is a significant negative association between companies' decisions in reporting goodwill impairment losses and change in operating cash flows (ΔOCF).

$H_{4\text{-Alternative2}}$: *Ceteris paribus*, there is a significant positive association between companies' decisions in reporting goodwill impairment losses and change in operating cash flows (ΔOCF).

The null hypothesis is that there is no significant association between companies' decisions in reporting goodwill impairment losses and change in operating cash flows (ΔOCF). There are two alternatives hypothesis.

$H_{4\text{-Alternative1}}$ is based on the assumption that companies do not make choices which conflict with economic factors. Finding a significant negative association in $H_{4\text{-Alternative1}}$ indicates that the poorer the company's

performance (reflected as a decline in the value of ΔOCF), the greater the likelihood of, or the greater the magnitude of, goodwill impairment losses reported by the company. By recognising or measuring goodwill impairment losses when operating cash flows are falling, managers are reflecting their expectations of future performance of the asset (based on past performance) at a firm-level. Thus, in this case, there is no accounting choice exercised as managers are complying with FRS 3 and FRS 136.

$H_{4\text{-Alternative2}}$ is based on the assumption that companies make choices which conflict with economic factors. Finding a significant positive association in $H_{4\text{-Alternative2}}$ suggests that the poorer the company's performance (reflected as a decline in the value of ΔOCF), the lower the likelihood of, or the lower the magnitude of, goodwill impairment losses reported by the company. By not recognising goodwill impairment losses or reporting lower amount of goodwill impairment losses when operating cash flows are falling, it is possible that managers are attempting to avoid goodwill impairment losses, or reporting a lower magnitude of impairment losses, in the hope that companies' performance will improve in the future. Consequently, the managers' decisions in reporting goodwill impairment losses do not reflect their expectations of the future performance of the asset at a firm-level, which may point to the possibility of accounting choices being exercised.

5.4.4 Book-to-market ratio (BTM)

Book-to-market ratio (BTM) attempts to capture the intensity of expected economic impairment of goodwill at a firm-level (Guler, 2007: 24). According to FRS 136 (paragraph 12), one of the indications that an asset (goodwill) may be impaired is when the carrying amount of the net assets of the entity is more than its market capitalisation (MASB, 2006c: FRS 136, paragraph 12d) (see Section 4.3 for detailed discussion). Following the FRS 136 indication, a higher book-to-market ratio (BTM) may indicate a possible goodwill impairment loss at a firm-level. Guler (2007) and AbuGhazaleh et al. (2011) posit a positive relationship between book-to-market ratio (BTM) and reporting goodwill impairment losses. That is, companies with higher book-to-

market ratio (BTM) are expected to report larger amount of goodwill impairment losses (AbuGhazaleh et al., 2011: 179).

In the multivariate analysis, using tobit regression in their measurement study, AbuGhazaleh et al. (2011: 190) documented the book-to-market ratio (BTM) to be positively associated with the measurement of goodwill impairment losses (at p-value less than 0.05). Applying logistic regression in her recognition study, Guler (2007: 72) also found that the higher the book-to-market ratio (BTM), the higher the likelihood of reporting goodwill impairment losses, though the association is marginally significant (p-value less than 0.10).

In this thesis, the book-to-market ratio (BTM) is defined as book value of equity divided by market value of equity at the end of the current period (see Appendix 1 of the thesis). The following hypothesis is developed both in a null form and an alternate form:

$H_{5\text{-Null}}$: *Ceteris paribus*, there is no significant association between companies' decisions in reporting goodwill impairment losses and the book-to-market ratio (BTM).

$H_{5\text{-Alternative1}}$: *Ceteris paribus*, there is a significant positive association between companies' decisions in reporting goodwill impairment losses and the book-to-market ratio (BTM).

$H_{5\text{-Alternative2}}$: *Ceteris paribus*, there is a significant negative association between companies' decisions in reporting goodwill impairment losses and the book-to-market ratio (BTM).

The null hypothesis is no significant association between companies' decisions in reporting goodwill impairment losses and the book-to-market ratio (BTM). There are two alternatives hypothesis.

$H_{5\text{-Alternative1}}$ is based on the assumption that companies do not make choices which conflict with economic factors. Finding a significant positive association in $H_{5\text{-Alternative1}}$ indicates that the poorer the company's performance (reflected

in a higher BTM), the greater the likelihood of, or the greater the magnitude of, goodwill impairment losses reported by the company. By recognising or measuring goodwill impairment losses when BTM is large, managers are reflecting expectations of future performance of the asset (based on past performance) at a firm-level. Thus, in this case, there is no accounting choice exercised as managers are following the indication of FRS 136.

$H_{5\text{-Alternative2}}$ is based on the condition of choice that conflict with economic factors. Finding a significant negative association in $H_{5\text{-Alternative2}}$ suggests that the poorer the company's performance (reflected in a higher BTM), the lower the likelihood of, or the lower the magnitude of, goodwill impairment losses reported by the company. By not recognising goodwill impairment losses, or reporting a lower magnitude of goodwill impairment losses, when BTM are large, managers are possibly attempting to avoid goodwill impairment losses, or reporting lower magnitude of impairment losses, hoping that the companies' performance will improve in the future. Thus, in this case, the managers' decisions in reporting goodwill impairment losses are conflicting with the indication provided by FRS 136 (paragraph 12d), which may point to the possibility of accounting choices being exercised.

5.4.5 Relative size of goodwill balance (GWB)

Relative size of goodwill balance (GWB) represents one of the characteristics of goodwill (Lapointe-Antunes et al., 2008: 44; Zang, 2008: 48; AbuGhazaleh et al., 2011: 179). It is considered to be one of the economic factors related to impairment (AbuGhazaleh et al., 2011: 179). Prior studies (Lapointe-Antunes et al., 2008: 44; Zang, 2008: 49; AbuGhazaleh et al., 2011: 179) argue that companies with a large amount of goodwill balance in their asset composition are more exposed to an impairment test, and thus more likely to report goodwill impairment losses than companies with a small magnitude of goodwill balance in their asset composition. All of the prior studies (i.e. Lapointe-Antunes et al., 2008; Zang, 2008; Ramanna and Watts, 2012; AbuGhazaleh et al., 2011) predict a positive association between relative size of goodwill balance (GWB) and the measurement of goodwill impairment losses.

The empirical results testing the association between relative size of goodwill balance (GWB) and companies' decisions in reporting goodwill impairment losses provide conflicting findings. For the measurement study, in their multivariate analysis, Zang (2008: 53) and Lapointe-Antunes et al. (2008: 48) found the variable to be strongly significant (at p-values less than 0.01) in explaining the measurement of goodwill impairment losses by US and Canadian listed companies respectively. On the other hand, AbuGhazaleh et al. (2011: 190) found the variable not to be statistically significant in explaining the measurement of goodwill impairment losses by UK listed companies. Likewise, for the recognition study, Omar and Mohd-Saleh (2011: 403) found the relative size of goodwill balance as non-significant in explaining the recognition of goodwill impairment by Malaysian listed companies.

In this thesis, similar to AbuGhazaleh et al. (2011: 178), relative size of goodwill balance (GWB) is defined as the opening carrying value of goodwill in the current year divided by total assets at the end of prior period (see Appendix 1 of the thesis). The following hypothesis is developed both in a null form and an alternate form:

$H_{6\text{-Null}}$: *Ceteris paribus*, there is no significant association between companies' decisions in reporting goodwill impairment losses and relative size of goodwill balance (GWB).

$H_{6\text{-Alternative1}}$: *Ceteris paribus*, there is a significant positive association between companies' decisions in reporting goodwill impairment losses and relative size of goodwill balance (GWB).

$H_{6\text{-Alternative2}}$: *Ceteris paribus*, there is a significant negative association between companies' decisions in reporting goodwill impairment losses and relative size of goodwill balance (GWB).

The null hypothesis is no significant association between companies' decisions in reporting goodwill impairment losses and the relative size of goodwill balance (GWB). There are two alternatives hypothesis.

$H_{6\text{-Alternative1}}$ is based on the assumption that companies do not make choices which conflict with economic factors. Finding a significant positive association in $H_{6\text{-Alternative1}}$ indicates that the larger the size of goodwill balance relative to a company's total assets (reflected in a high GWB), the greater the likelihood of, or the greater the magnitude of, goodwill impairment losses being reported by the company. By recognising or measuring goodwill impairment losses when GWB is high, managers are reflecting the exposure of the goodwill balance to the performance of the total assets. Thus, in this case, there is no accounting choice exercised.

$H_{6\text{-Alternative2}}$ is based on the condition of choices that conflict with the economic factors. Finding a significant negative association in $H_{6\text{-Alternative2}}$ suggests that the larger the size of goodwill balance relative to a company's total assets (reflected in a higher GWB), the lower the likelihood of, or the lower the magnitude of, goodwill impairment losses reported by the company. By not recognising goodwill impairment losses, or reporting lower amount of goodwill impairment losses, when GWB are high, managers are possibly attempting to avoid goodwill impairment losses, or reporting a lower magnitude of impairment losses, hoping that the companies' performance will improve in the future. Thus, in this case, the managers' decisions in reporting goodwill impairment losses do not reflect the exposure of the goodwill balance to the performance of the total assets, which may lead to the possibility of accounting choices being exercised.

5.5 Contracting perspective: Debt hypothesis (DEBTRATIO)

The contracting perspective of accounting choice which will be tested in this thesis is the debt hypothesis. From a contracting point of view, managers' motives for exercising an accounting choice is to influence an external contractual arrangement between companies and their debt-holders (Fields et al., 2001) (See Section 2.3.1.2). This is especially true for companies that are close to violating their debt covenants (Fields et al., 2001). By exercising an accounting choice, these companies are attempting to relax the accounting-based restrictions stipulated in the debt covenants (Smith, 1993); hence avoiding any violation of such covenants (Dichev and Skinner, 2002).

In the context of goodwill impairment, previous researchers testing the debt hypothesis either predicted a negative relationship between companies' closeness to the debt covenant violations and their decisions in reporting goodwill impairment losses (Zang, 2008; Ramanna and Watts, 2012) or provided no predicted sign (AbuGhazaleh et al., 2011: 174 and 190). The negative prediction implies that companies which are close to violating their debt covenants are less likely to recognise goodwill impairment losses (Beatty and Weber, 2006: 265; Zang, 2008: 53). By not recognising goodwill impairment losses, companies are trying to maximise their current earnings (Godfrey and Koh, 2009: 127), and thus possibly avoiding debt covenant violations (Ramanna and Watts, 2012). AbuGhazaleh et al. (2011: 174) reason that due to the conflicting results documented by prior studies, they do not hypothesise a direction in testing the debt hypothesis.

The empirical evidence of accounting choices related to goodwill impairment, testing the debt hypothesis, documented mixed results. In the US, Zang (2008: 48 and 54) demonstrates that regardless of five different measures of leverage employed in his measurement study, the results consistently support the debt hypothesis, showing a negative association between leverage and companies' decisions in reporting goodwill impairment losses during the transitional period (at p-value less than 0.05). Likewise, the empirical finding of Ramanna and Watts (2012) in their measurement study supported the debt hypothesis (at p-value less than 0.10).

On the other hand, Beatty and Weber (2006: 280) found no significant association between companies' leverage and their decisions to report goodwill impairment losses in the probit regression model of their recognition study of goodwill impairment. Similarly, Guler (2007: 22), in her recognition study, found no significant relationship between debt ratio (measured as total liabilities at the end of t-1 divided by total assets at the end of t-1) and companies' decisions in recognising goodwill impairment losses. Nevertheless, Guler (2007) does not provide a possible explanation for the non-significant relationship between the two variables.

Moving away from US listed companies which implemented SFAS 142, AbuGhazaleh et al. (2011) found leverage (DEBTRATIO) as non-significant in

explaining the decisions of the UK listed companies they analysed in measuring goodwill impairment losses. Meanwhile, Omar and Mohd-Saleh (2011) found leverage (DEBTRATIO) as marginally significant (at p-value less than 0.10) in explaining the decisions of the Malaysian listed companies they analysed in recognising goodwill impairment losses.

In this thesis, due to difficulties in obtaining data relating to actual debt covenants[38], as they are not made public, debt ratio (DEBTRATIO) has been employed as a proxy for companies' closeness to the debt covenant violations (see Section 2.3.1.2). Similar to AbuGhazaleh et al. (2011: 178), DEBTRATIO is defined as total debts at the end of prior year, divided by total assets at the end of prior year (see Appendix 1 of the thesis). In view of the inconclusive evidence discussed above, no prediction sign is formed regarding the relationship between companies' decisions in reporting goodwill impairment losses and leverage (DEBTRATIO). Thus, the following hypothesis is developed both in a null form and an alternate form:

$H_{7\text{-Null}}$: *Ceteris paribus*, there is no significant association between companies' decisions in reporting goodwill impairment losses and leverage (DEBTRATIO).

$H_{7\text{-Alternative}}$: *Ceteris paribus*, there is a significant association between companies' decisions in reporting goodwill impairment losses and leverage (DEBTRATIO).

Finding a significant negative association between companies' decisions in reporting goodwill impairment losses and leverage (DEBTRATIO) would suggest that the companies are exercising accounting choices related to goodwill impairment in an attempt to avoid debt covenant violations.

[38] According to a senior auditor of the PricewaterhouseCoopers who work in Malaysia, debt covenants are in use in Malaysia, particularly for companies which obtained a large amount of loan from financial institutions. The covenants are usually stipulated in the loan agreement and they include certain conditions to be met which normally relates to company's annual performance. To illustrate, in the Notes to the Financial Statement of Axiata Group Berhad 2008, the group disclosed the following conditions of its debt covenants: 'debt equity ratio of not more than 1.25; debt over EBITDA ratio of not more than 2.5; EBITDA over finance cost ratio of more than 5; and finance service coverage ratio of more than 1.2" (Axiata annual report 2008: Notes 15(e)(iv), page 217 – document retrieved on February 7, 2013, from http://axiata.listedcompany.com/misc/ar2008.pdf). It is noted that the debt equity ratio disclosed by Axiata Group Berhad is similar to those used in the US and the UK.

5.6 Opportunistic behaviour perspective

Four variables are employed to test the evidence of managerial opportunism in reporting goodwill impairment. These are, change in CEO ($\Delta CEO_{Current/prior}$) (see Section 5.6.1), CEO tenure (see Section 5.6.2), big bath reporting (see Section 5.6.3), and earnings smoothing (see Section 5.6.4).

5.6.1 Change in Chief Executive Officer ($\Delta CEO_{Current/prior}$)

Change in CEO is employed by prior studies (e.g. Strong and Meyer, 1987; Elliott and Shaw, 1988; Francis et al., 1996) to examine the behaviour of the incoming CEOs in reducing reported earnings in the early year of their tenure, for example, by taking large asset write-off (Fields et al., 2001: 269). The argument raised by prior studies (e.g. Wells, 2002: 172; Riedl, 2004: 832; Francis, 2008: 628; AbuGhazaleh et al., 2011: 175) is that because the incoming CEO is not held responsible for the company's past performance, he may have a tendency to take asset write-offs and goodwill impairment loss as soon as joining a company, and thus attribute current loss to some aspects of the preceding CEO's poor management.

An opportunistic behaviour perspective suggests that incoming CEOs may have an incentive to take asset write-offs (including goodwill impairment losses) in an attempt to protect their self-interests (Elliott and Shaw, 1988; Francis et al., 1996; Riedl, 2004). Elliott and Shaw (1988), for example, explain that the new CEOs are taking asset write-offs (including goodwill impairment losses) in the first year of their tenure in order to reduce the benchmark against which their future performance will be measured. At the same time, by incurring large asset write-offs (including goodwill impairment losses) at an early stage of their appointment, the incoming CEOs would be able to relieve future earnings from these losses (Moore, 1973). As a result, they might be able to report an improved earnings trend in the future (Moore, 1973) and hence improve the investors' perceptions of the company's future performance (Francis et al., 1996; Riedl, 2004). Following this line of argument, prior studies analysing measurement (i.e. Zang, 2008; Lapointe-Antunes et al.,

2008; AbuGhazaleh et al., 2011) and recognition (i.e. Guler, 2007) of goodwill impairment predict a positive association between change in CEO and reporting goodwill impairment losses.

In the measurement study of goodwill impairment, using tobit regression, Lapointe-Antunes et al. (2008: 48) and AbuGhazaleh et al. (2011: 190) found a positive association between change in CEO and companies' decisions in reporting goodwill impairment losses at p-values less than 0.05 and 0.10 respectively. In the recognition study of goodwill impairment, Guler (2007: 72) and Omar and Mohd-Saleh (2011) also observed a positive association between companies' decisions in reporting goodwill impairment losses and change in CEO. These studies interpret the finding of the positive association between the two variables as managerial incentives playing an important role in reporting goodwill impairment losses (e.g. Francis et al., 1996; Lapointe-Antunes et al., 2008).

An alternative explanation to the positive association between reporting goodwill impairment losses and change in CEO is because of the economic factors of a company (Francis et al., 1996; Riedl, 2004). Murphy and Zimmerman (1993) argue that companies would normally face poor earnings performance prior to a change in CEO. Consequently, the newly appointed CEO may take asset write-offs (including goodwill impairment losses) to mirror the company's poor performance rather than behaving opportunistically (Francis et al., 1996). If this is the case, it is viewed that the positive association between the two variables would indicate compliance with the accounting standard. Nevertheless, Riedl (2004) explains that to the extent that the economic factors control for the underlying performance of the companies, change in CEO may capture additional incentives for the incoming CEOs to expedite future charges in the hope of improving investors' perceptions of the companies' future performances.

In this thesis, similar to AbuGhazaleh et al. (2011: 178), change in CEO ($\Delta CEO_{Current/prior}$) is said to occur when a company experiences a change in CEO in the previous financial year or the current financial year. It is measured as a dichotomous variable, equal to one if a company experienced the CEO

change, and zero otherwise (see Appendix 1 of the thesis). The following hypothesis is developed both in a null form and an alternate form:

$H_{8\text{-Null}}$: *Ceteris paribus*, there is no significant association between companies' decisions in reporting goodwill impairment losses and change in CEO which take place in the prior year or current year ($\Delta CEO_{Current/prior}$).

$H_{8\text{-Alternative}}$: *Ceteris paribus*, there is a significant positive association between companies' decisions in reporting goodwill impairment losses and change in CEO which take place in the prior year or current year ($\Delta CEO_{Current/prior}$).

Finding a statistically significant positive association between change in CEO (in H_8) and companies' decisions in reporting goodwill impairment losses, after controlling for the economic factors, would indicate that incoming CEOs exercised accounting choices related to goodwill impairment losses. This view is based on the above explanation given by Riedl (2004) that to the extent the economic factors control for the underlying economic performance of the companies, a change in CEO might capture additional incentives for the incoming CEO to expedite future charges, with the aim of improving investors' perceptions of the companies' future performances.

A point for discussion is that AbuGhazaleh et al. (2011) assumes (not stated in the study) that a CEO holds the highest position in a company. However, prior studies analysing asset write-offs (i.e. Francis et al., 1996; Riedl, 2004) apply no such assumption. Francis et al. (1996: 123), for example, define a change in top management as 'any of the top-three executive positions (Chairman of the Board, CEO, or President)'. However, Francis et al. (1996) and Riedl (2004) provide no rationale for including any of these three positions. Pourciau (1993: 324), in her investigation of earnings management associated with non-routine executive changes, stated that the titles of top executives vary among US listed companies. She exemplifies that in some companies, the highest position in the office is held by the president, while in other companies this position is subordinate to that of CEO (Pourciau, 1993: 324).

For this reason, Pourciau (1993: 324) considers the highest position in a company to be a CEO, Chairman, or President.

In Malaysia, Gibson's (2003: 236) analysis of the effectiveness of corporate governance of eight emerging market, including Malaysia, from 1993-1997 found variations in the title of the top management position. He (p. 236) identifies that in Malaysia, this position can include CEO, President, Chief Executive, Managing Director, or Chairman. For this reason, this thesis will carry out a sensitivity analysis for change in CEO in order to assess whether empirical results following a change in CEO would be sensitive to alternative definition of CEO change, which included one of the five aforementioned executive positions (see Section 8.5.2.1 for detail).

Another sensitivity analysis that will be conducted for change in CEO is to assess whether the empirical results for a change in CEO would be sensitive to specification of the year of CEO change. This is done by using two additional definitions for the change in CEO. These are: (i) change in CEO occurring in the previous year (t-1), and (ii) change in CEO occurring in the current year (t). This sensitivity analysis will also be conducted for the top management positions as discussed in the above paragraph (see Section 8.5.2.1 for detail).

5.6.2 CEO tenure (CEOTENURE)

CEO tenure is employed by prior studies (e.g. Beatty and Weber, 2006; Ramanna and Watts, 2012) for testing the behaviour of existing CEOs. The variable is employed as a proxy for whether the CEO was actually in place when the goodwill being written off was first recognised (Beatty and Weber, 2006; Ramanna and Watts, 2012). As explained by Ramanna and Watts (2012: 752), CEOs with a longer tenure are more likely to have initiated the mergers that generated the goodwill.

Ramanna and Watts (2012: 752) argue that CEOs with a longer tenure are less likely to take goodwill impairment losses, in order to shield their reputations from the implications of the write-off. This is because reporting goodwill impairment losses would imply that the CEO has made costly business decision (Beatty and Weber, 2006; Masters-Stout et al., 2008; Ramanna and Watts,

2012) or that they failed to achieve the promised synergies from the business acquisition (Lapointe-Antunes et al. 2008: 41). Thus, the prior studies (e.g. Beatty and Weber, 2006; Ramanna and Watts, 2012) hypothesise a negative relationship between CEO tenure and companies' decisions in reporting goodwill impairment losses. Their empirical results reveal a statistically significant negative association between CEO tenure and companies' decisions in reporting goodwill impairment losses (Beatty and Weber, 2006; Ramanna and Watts, 2012). Ramanna and Watts (2012: 750) explain that in their study although all of the companies analysed have 'market indications[39] of goodwill impairment', CEOs with long tenure were less likely to take goodwill impairment losses when compared to CEOs with a short tenure due concerns about their reputation.

In the context of a developing economy, Gibson's (2003: 236) analysis of the effectiveness of corporate governance of eight emerging market, including Malaysia, from 1993-1997 observed that listed companies in Malaysia faced the second highest CEO turnover rate. With high CEO turnover rate, it is possible that Malaysian listed companies are concerned about their reputations when making decisions on whether to report goodwill impairment losses or zero goodwill impairment.

In this thesis, similar to Beatty and Weber (2006: 274), CEO tenure (CEOTENURE) is defined as the number of years that the CEO has held the position (see Appendix 1 of the thesis). Given the negative association revealed by Beatty and Weber (2006) and Ramanna and Watts (2012), a negative relationship is expected between CEO tenure (CEOTENURE) and companies' decisions in reporting goodwill impairment losses. Thus, the following hypothesis is developed both in a null form and an alternate form:

[39] Ramanna and Watts (2012: 750-751) define market indications of goodwill impairment as 'companies with market values that are greater than the book values of their net assets in t0 (i.e. 2003), and experienced book-to-market ratio greater than one for the next two consecutive years (t1 -2004, and t2 – 2005)'.

$H_{9\text{-Null}}$: *Ceteris paribus*, there is no significant association between companies' decisions in reporting goodwill impairment losses and CEO tenure (CEOTENURE).

$H_{9\text{-Alternative}}$: *Ceteris paribus*, there is a significant negative association between companies' decisions in reporting goodwill impairment losses and CEO tenure (CEOTENURE).

$H_{9\text{-Alternative}}$ focuses on testing the accounting choice of reporting zero goodwill impairment. Finding a statistically significant negative association between CEO tenure (CEOTENURE) and the decisions of companies to report goodwill impairment losses indicates that companies which have CEOs with a relatively longer tenure are less likely to report goodwill impairment losses.

5.6.3 Big bath reporting (BATH)

Big bath reporting behaviour occurs when managers take actions which lead to a large reduction in companies' earnings, especially when the earnings can already be considered sufficiently bad (Kirschenheiter and Melumad, 2002: 762). Managers might engage in big bath reporting by taking a large amount of asset write-offs (Zucca and Campbell, 1992: 35). In such cases, there can be several incentives for taking the write-offs: to provide a signal that past problems have been addressed (Alciatore et al., 1998: 29), to reduce earnings and assets values in an attempt to avoid take over (Alciatore et al., 1998: 29), or it may be that new CEOs are attempting to reduce the benchmark against which future earnings will be judged (Alciatore et al., 1998: 29; Francis, 2008).

The big bath hypothesis implies managers taking higher than necessary economic impairment during periods when their companies have a 'larger [negative pre-write-off] earnings surprise' (Riedl, 2004: 832; Guler, 2007[40]; AbuGhazaleh et al., 2011). Thus, prior studies analysing asset write-offs (e.g.

[40] Instead of using the term larger [negative pre-write-off] earnings surprise, as applied by Riedl (2004: 832), Guler (2007: 26) uses the term 'unexpectedly low' pre-write-off earnings while AbuGhazaleh et al. (2011: 175) refer to it as 'abnormally low' pre-write-off earnings.

Riedl, 2004: 832) and goodwill impairment (e.g. Guler, 2007: 17; AbuGhazaleh et al, 2011: 174) predict a negative association between companies' decisions in reporting asset write-offs inclusive of goodwill impairment losses and the larger negative pre-write-off earnings surprise, in that the stronger the downward trend in companies' pre-write-off earnings, the higher the magnitude of goodwill impairment losses reported.

For the recognition study of goodwill impairment, using logistic regression, Guler (2007: 26 and 72) found no statistically significant difference between companies' decisions in recognising goodwill impairment losses and the larger negative pre-write-off earnings surprise. Nonetheless, for the measurement study of goodwill impairment, the tobit regression analysis carried out by Guler (2007: 73) and AbuGhazaleh et al. (2011: 190) in their measurement studies, provided support to the big bath hypothesis, finding a negative association between the magnitude of goodwill impairment losses and the larger negative pre-write-off earnings surprise.

This thesis follows Riedl (2004: 829) and AbuGhazaleh et al. (2011: 178), in that larger negative pre-write-off earnings surprise (BATH) is defined as change in a company's pre-write-off earnings from prior period to current period, divided by total assets at the end of prior period, when this change is below the median of non-zero negative values of this variable, and zero otherwise. The pre-write-off earnings refer to net income before extraordinary items or preferred dividends after adding back goodwill impairment losses (see Appendix 1 of the thesis).

The following hypothesis is formulated both in a null form and an alternate form:

$H_{10\text{-Null}}$: *Ceteris paribus*, there is no significant association between companies' decisions in reporting goodwill impairment losses and larger negative pre-write-off earnings surprise (BATH).

$H_{10\text{-Alternative}}$: *Ceteris paribus*, there is a significant negative association between companies' decisions in reporting goodwill impairment losses and larger negative pre-write-off earnings surprise (BATH).

$H_{10\text{-Alternative}}$ focuses on testing the accounting choice of reporting goodwill impairment losses. Finding a statistically significant negative association between companies' decisions in reporting goodwill impairment losses and BATH in $H_{10\text{-Alternative}}$, suggests managers exercise an accounting choice by taking large goodwill impairment losses for big bath motivation. This view is based on the explanation offered by Riedl (2004: 833) that, to the extent economic factors [i.e. change in pre-write-off earnings ($\Delta EARNINGS_{preGWIL}$) in H_3] control for the underlying economic performance of the companies, BATH might capture any incremental effect relating to the big bath reporting incentive.

Thus far, prior studies interpret the statistically significant result for BATH in a negative direction, as predicted, in two competing ways. Firstly, given that the change in pre-write-off earnings is negative, it implies that managers take a big bath to reveal private information about the company's true value (AbuGhazaleh et al., 2011: 194). Alternatively, seeing the negative change in the pre-write-off earnings, managers are behaving opportunistically and thus distorting the underlying economics of the company (Riedl, 2004: 833).

Similar to Riedl (2004: 833), this thesis considers that, to the extent the change in pre-write-off earnings (one of the variables testing the economic factors - see Section 5.4.2.3) control for the performance of the underlying economic values of the assets, BATH (i.e. change in pre-write-off earnings below the median of non-zero negative values) may capture incremental effects relating to the big bath reporting incentives.

5.6.4 Earnings smoothing (SMOOTH)

Earnings smoothing involves a 'reduction in earnings variability over a number of periods, or, within a single period, as the movement towards an expected level of reported earnings' (Beattie et al., 1994: 793). It is carried out by managers in order to maintain a steady earnings growth (Zucca and Campbell, 1992: 35). Managers may smooth earnings where there exists concern about their job security (DeFond and Park, 1997), hoping that the market will equate smooth earnings with lower risk and thus higher stock values (Zucca

and Campbell, 1992: 35), or because management compensation plans are designed to reward smooth earnings patterns (Zucca and Campbell, 1992: 35).

The earnings smoothing hypothesis suggests that managers take actions to reduce the earnings variability when their companies face 'larger [positive pre-write-off] earnings surprise' (Riedl, 2004: 832). Thus, prior studies (e.g. Francis et al., 1996; Guler, 2007; AbuGhazaleh et al., 2011) hypothesise a positive association between companies' decisions in taking asset write-offs inclusive of goodwill impairment losses and companies' larger positive pre-write-off earnings surprise[41]. The multivariate analysis undertaken by Francis et al. (1996: 124-125 and 127), Guler (2007: 72) and AbuGhazaleh et al. (2011: 190) provided support to the earnings smoothing hypothesis finding a positive association between companies' decisions in taking goodwill impairment losses and the larger positive pre-write-off earnings surprise.

Similar to Riedl (2004: 829) and AbuGhazaleh et al. (2011: 178), in this thesis, larger positive pre-write-off earnings surprise (SMOOTH) is defined as change in a company's pre-write-off earnings from prior period to current period, divided by total assets at the end of prior period, when this change is above the median of non-zero positive values of this variable, and zero otherwise (see Appendix 1 of the thesis). The pre-write-off earnings refer to net income before extraordinary items or preferred dividends after adding back goodwill impairment losses (see Appendix 1 of the thesis). The following hypothesis is formulated both in a null form and an alternate form:

$H_{11\text{-Null}}$: *Ceteris paribus*, there is no significant association between companies' decisions in reporting goodwill impairment losses and the larger positive pre-write-off earnings surprise (SMOOTH).

$H_{11\text{-Alternative}}$: *Ceteris paribus*, there is a significant positive association between companies' decisions in reporting goodwill impairment losses and the larger positive pre-write-off earnings surprise (SMOOTH).

[41] Instead of using the term larger [positive pre-write-off] earnings surprise, as applied by Riedl (2004: 832), Francis et al. (1996: 124) refer to it as 'unexpectedly good performance', Guler (2007: 26) uses the term 'unexpectedly high' pre-write-off earnings and AbuGhazaleh et al. (2011: 175) call it 'abnormally high' pre-write-off earnings.

$H_{11\text{-Alternative}}$ focuses on testing the accounting choice of reporting goodwill impairment losses. Finding a statistically significant positive association between companies' decisions in reporting goodwill impairment losses and SMOOTH in $H_{11\text{-Alternative}}$, suggests managers are exercising an accounting choice by taking goodwill impairment losses for the purposes of earnings smoothing.

5.7 Ownership structures

Two variables, i.e. managerial ownership (in Section 5.7.1) and outside ownership concentration (in Section 5.7.2) are employed to test the influence of companies' ownership structures on the measurement and the recognition studies of goodwill impairment by Malaysian listed companies.

5.7.1 Managerial ownership ($MANOWN_{Linear}$, and $MANOWN_{Non\text{-}monotonic}$)

As discussed in Section 2.3.3, prior studies normally associate lower managerial ownership with an increase in companies' contractual constraints, which is often contain accounting-based restrictions (Warfield et al., 1995: 65). With low managerial ownership, managers might be encouraged to either alleviate the accounting-based restriction or to capitalise on the incentives available in the contracts (Warfield et al., 1995: 65). Following this line of argument, prior studies analysing accounting method choice (e.g. Niehaus, 1989) and accounting choice manifested in discretionary accruals adjustment (e.g. Warfield et al., 1995), argue that as managerial ownership increases, their interests become closely aligned with those of outside shareholders, which results in less motivation for the managers to be involved in wealth transferring activities. Thus, a negative association is predicted between managerial ownership and the accounting choice analysed (Niehaus, 1989; Warfield et al., 1995). The empirical results of Warfield et al. (1995: 63) supported their hypothesis, in finding a negative relationship between managerial ownership and the discretionary accruals.

Apart from predicting the negative relationship as discussed above, there are also studies which hypothesise a non-monotonic relationship between managerial ownership and accounting method choice (e.g. Niehaus, 1989:

283), income smoothing (e.g. Carlson and Bathala, 1997) or discretionary accruals as a proxy for earnings management (e.g. Teshima and Shuto, 2008: 115). These studies posit two effects of managerial ownership on their dependent variable.

Firstly, as managerial ownership increases, the accounting method choice decreases (Niehaus, 1989: 272). This is because when managers own shares, their incentives become closely aligned with shareholders (Niehaus, 1989: 272; Carlson and Bathala, 1997: 181; Teshima and Shuto, 2008: 108). Secondly, a high level of managerial ownership resulted in increased in managerial discretion, and hence increase the accounting method choice (Niehaus, 1989: 270). The reason is because it is difficult to discipline the managers who hold large portion of companies' shares (Niehaus, 1989: 270; Teshima and Shuto, 2008: 108). The combination of these two effects may lead to a non-monotonic relationship between managerial ownership and accounting method choice (Niehaus, 1989: 283). The empirical evidence provided by Niehaus (1989: 283), Carlson and Bathala (1997: 193), and Teshima and Shuto (2008: 107) provide support to the non-monotonic relationship between management ownership and their dependent variable.

In this thesis, the influence of managerial ownership on companies' decisions in reporting goodwill impairment losses is tested in two separate ways: (i) the linear relationship, and (ii) the non-monotonic relationship. Following Ismail and Weetman (2007: 521), managerial ownership ($MANOWN_{Linear}$) is measured as the number of ordinary shares held directly by executive directors divided by total number of issued and paid up ordinary shares (see Appendix 1 of the thesis). Shares held by independent non-executive directors are not included, as these directors play a monitoring role, and are expected to limit any managerial opportunism (Mohd Ghazali, 2004: 118). The following paragraphs formulate the hypotheses for these two types of managerial ownership. As there is a lack of prior studies related to goodwill impairment analysing managerial ownership, no prediction sign is formed for these two hypotheses.

For the linear relationship ($MANOWN_{Linear}$), the following hypothesis is developed both in a null form and an alternate form:

$H_{12A\text{-}Null}$: *Ceteris paribus*, there is no significant association between companies' decisions in reporting goodwill impairment losses and the managerial ownership ($MANOWN_{Linear}$).

$H_{12A\text{-}Alternative}$: *Ceteris paribus*, there is a significant association between companies' decisions in reporting goodwill impairment losses and the managerial ownership ($MANOWN_{Linear}$).

For the non-monotonic relationship, the $MANOWN_{Linear}$ (discussed above) is transformed into three categories as follows:

MANOWN1 = board ownership if board ownership < 0.05
= 0.05 if board ownership ≥ 0.05

MANOWN2 = 0 if board ownership < 0.05
= board ownership minus 0.05 if 0.05≤board ownership< 0.25
= 0.20 if board ownership ≥ 0.25

MANOWN3 = 0 if board ownership < 0.25
= board ownership minus 0.25 if board ownership ≥ 0.25

The hypothesis which is developed for the non-monotonic relationship ($MANOWN_{Non\text{-}monotonic}$) is as follows:

$H_{12B\text{-}Null}$: *Ceteris paribus*, there is no significant association between companies' decisions in reporting goodwill impairment losses and the managerial ownership ($MANOWN_{Non\text{-}monotonic}$).

$H_{12B\text{-}Alternative}$: *Ceteris paribus*, there is a significant association between companies' decisions in reporting goodwill impairment losses and the managerial ownership ($MANOWN_{Non\text{-}monotonic}$).

The idea of the non-monotonic relationship is motivated by Morck et al. (1988) in their analysis of managerial ownership and companies' performance, which is then adapted by others in their study of earnings management (e.g. Teshima and Shuto, 2008), income smoothing (e.g. Carlson and Bathala, 1997), audit committee (e.g. Chau and Leung, 2010), and companies' performance (e.g. McConnell and Servaes, 1995). Similar to the prior studies, in this thesis, these three variables (i.e. MANOWN1, MANOWN2, and

MANOWN3) attempt to illustrate that the relationship between managerial ownership and reporting goodwill impairment differs at three different cut-off points.

It is noted that there is an element of arbitrariness in the cut-off points of 5% and 25%. Although these are the cut-off points employed by Morck et al. (1988) in their analysis of US listed companies and later adapted by Chau and Gray (2010) in their investigation of Hong Kong listed companies, academic researchers (e.g. Morck et al., 1988: 298; Chau and Leung, 2006: 5) acknowledge that there is no consensus in the literature on the appropriate cut-off point. In Malaysia, the 5% cut-off point is in line with the Malaysian Securities Commission under its Securities Industry (Reporting of substantial shareholding) Regulations 1998 who considered substantial shareholding to be an ownership stake of 5% (Ngee, 2010: 11). However, there is no specific rule imposed by the Malaysian authorities which would dictate the choice of cut-off point.

To assess whether the empirical result for managerial ownership would be sensitive to the specification of a particular cut-off point, two other breakpoints will be applied in the sensitivity analysis (see Section 8.5.2.2). These are at 20% and at 30%. The 20% figure is adopted from Claessens et al. (2000: 92-93) who, in their analysis of the separation of ownership and control in nine East Asian countries, including Malaysia, apply the 20% rule in considering whether there is a control[42] right of a company due to a pyramid structure. The 30% rule is applied by Morck et al. (1988) as part of a sensitivity analysis. In this thesis, a breakpoint of 50% and more could not be explored due to the small number of companies (i.e. 14 companies) with a managerial ownership of 50% and more.

[42] Claessens et al. (2000: 84) supported the cut-off point of 20% by bringing in the work of La Porta et al. (1999). Claessens et al. (2000: 84) stated that 'through the use of pyramiding and management appointments, as well as through cross-ownership and the (infrequent) use of shares that have more votes, they [La Porta et al., 1999] documented that control of East Asian corporations can be achieved with significantly less than an absolute majority share of the stock, as the probability of being a single controlling owner through holding only 20% of the stock is very high (above 80% across the four East Asian countries).'

5.7.2 Outside ownership concentration (OUTCON)

With regard to outside ownership concentration, prior studies analysing accounting method choice hypothesise that when companies' ownership is diffused, managers exercised greater discretion in choosing one accounting method over another (Dhaliwal et al., 1982: 42; Niehaus, 1989: 269). This is because when shareholders have a small stake in the companies, they have less incentive for monitoring the managers' actions as the monitoring costs outweigh the benefits (Niehaus, 1989: 271-272). However, as the shareholders' ownership claims increase, the benefit of monitoring management tends to outweigh the costs (Niehaus, 1989: 271-272). Thus, these prior studies (e.g. Niehaus, 1989: 271-272; Astami and Tower, 2006: 8) associate increased outside ownership concentration with an increase in shareholder's monitoring of the management.

In line with the argument that increased outside ownership concentration serves as a monitoring mechanism, which helps in mitigating incentive problems, prior studies (i.e. Niehaus, 1989: 279; Astami and Tower, 2006: 8) analysing accounting method choice expect increase in outside ownership concentration to reduce managerial discretion. Thus, these studies hypothesise a negative relationship between outside ownership concentration and managerial discretion [stated in terms of an income-increasing accounting method choice through the selection of FIFO in Niehaus (1989: 270); income-increasing accounting policy choice in Astami and Tower (2006:1)]. The empirical results documented by Niehaus (1989) and Astami and Tower (2006) are consistent with their prediction. Using 344 US listed companies for the financial year ended 1980, Niehaus (1989: 283) found that as outside ownership concentration declined, managers are more likely to select FIFO over LIFO as the former increases company's reported earnings. Investigating 442 annual reports in 2000/2001 for listed companies in the Asia Pacific region (i.e. Australia, Hong Kong, Indonesia, Malaysia, and Singapore), Astami and Tower (2006: 6) observed that companies' levels of ownership concentration are negatively associated with the use of income-increasing accounting method.

Nevertheless, Fan and Wong (2002: 405) argued that when shareholders obtain a substantial portion of shares to the point at which they obtain an effective control of the company, the nature of the agency problem shifted. Instead of a conflict of interest between managers and shareholders, the conflict is now between controlling owners and minority shareholders (Fan and Wong (2002: 405). Accordingly, it is possible that an increase in outside ownership concentration can lead to an increase in managerial discretion by the controlling owners at the expense of the minority shareholders (Shleifer and Vishny, 1997: 760; Fan and Wong, 2002: 401-402).

In view of the two opposite arguments discussed above and the lack of prior studies related to goodwill impairment examining the outside ownership concentration, no prediction sign is formed regarding the relationship between companies' decisions in reporting goodwill impairment losses and outside ownership concentration (OUTCON). Similar to Niehaus (1989: 277), outside ownership concentration (OUTCON) is measured as number of ordinary shares held by outsiders with the five largest claims, divided by the total number of issued and paid up ordinary shares. In this thesis, following Haniffa and Hudaib (2006: 1042), outside shareholders[43] refers to institutions, blockholders, and other individuals outside the company (see Appendix 1 of the thesis).

The following hypothesis is developed both in a null form and an alternate form:

$H_{13\text{-Null}}$: *Ceteris paribus*, there is no significant association between companies' decisions in reporting goodwill impairment losses and the outside ownership concentration (OUTCON)

[43] Information concerning these shareholders is obtained from the statistics on shareholdings, provided by companies in their annual reports, whereby, Malaysian listed companies disclosed the name of the shareholders, the number of ordinary shares held, and the percentage of issued capital. In the case of nominee shareholders, the name of the nominee and the shareholders are disclosed. For example, in the annual report of Astral Supreme Berhad, the following information is disclosed 'Mayban Nominees (Tempatan) Sdn. Bhd. pledged securities account for Cherng Chin Guan' (Astral Supreme Berhad, 2008: 67). From this list, the researcher then examines the annual reports to gauge the level of involvement which the investor (Cherng Chin Guan) has with the company.

$H_{13\text{-Alternative}}$: *Ceteris paribus*, there is a significant association between companies' decisions in reporting goodwill impairment losses and the outside ownership concentration (OUTCON)

Finding a significant association for $H_{13\text{-Alternative}}$ suggests the influential role of outside ownership concentration (OUTCON) on the measurement of goodwill impairment.

5.8 Discretion available in performing an impairment test of goodwill

In performing an impairment test of goodwill, FRS 136 *Impairment of Assets* allows managers to make judgements and estimates (Ernst and Young, 2007: 1), which Nobes (2006: 240) and Kvaal and Nobes (2010: 185) consider as 'covert options' (see detailed discussion in Sections 4.4 to 4.4.2). The managerial discretion investigated in this thesis includes the number of cash-generating-units containing goodwill (CGUs) (see Section 5.8.1), and the discount rates employed in estimating the recoverable amount of CGUs containing goodwill (see Sections 5.8.2 to 5.8.2.3).

5.8.1 Cash-generating-units containing goodwill ($CGUs_{01}$ and $CGUs_{Continous}$)

The discussion and empirical evidence on managerial discretion with respect to CGUs containing goodwill emanates largely from empirical studies analysing how managers of US (i.e. Beatty and Weber, 2006; Guler, 2007; Ahmed and Guler, 2007; Ramanna and Watts, 2012) and Canadian (i.e. Lapointe-Antunes et al., 2008) listed companies make use of reporting units[44] containing goodwill.

[44] For the purpose of an impairment test of goodwill, under IAS 36 (FRS 136 in Malaysia), goodwill is allocated to a CGU(s) while under US and Canadian GAAP, goodwill is allocated to a reporting unit. A CGU is the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets (IASB, 2006b: IAS 36, paragraph 6); a reporting unit is an operating segment or one level below an operating segment (Ernst and Young, 2010: 7). Accordingly, CGUs and reporting unit are two different basis of goodwill allocation (Ernst and Young, 2010: 7).

Prior studies (i.e. Beatty and Weber, 2006; Guler, 2007; Ramanna, 2008; Ramanna and Watts, 2012) analysing the relationship between reporting units and goodwill impairment losses argue that as the number of reporting unit increases, it provides managers with greater flexibility in allocating goodwill. This in turns increases the managerial discretion (Beatty and Weber, 2006; Guler, 2007; Ramanna, 2008; Ramanna and Watts, 2012). These studies rationalise that for companies with one reporting unit, managers are unable to allocate the goodwill balance among various reporting units (Beatty and Weber, 2006: 271; Guler, 2007: 24-25). Accordingly, the managers have fewer avenues to opportunistically manage the allocation of goodwill (Guler, 2007: 24-25).

On the other hand, for companies with multiple reporting units, managers have more choice in allocating the goodwill (Ramanna, 2008: 262; Ramanna and Watts, 2012: 760). To accelerate goodwill impairment losses, the managers could choose to allocate purchased goodwill to a low growth reporting unit (Ramanna, 2008: 261). Alternatively, to avoid reporting goodwill impairment losses, the managers could choose to allocate purchased goodwill to a high growth reporting unit that has internally generated goodwill (Roychowdhury and Watts, 2007: 30; Ramanna, 2008: 261; Ramanna and Watts, 2012: 760). In this unit, subsequent goodwill impairment losses can be masked by the internally generated goodwill (Ramanna and Watts, 2012: 760). Thus, Ramanna (2008: 255) expects that as the number of reporting units containing goodwill increases, managerial discretion increases.

Instead of expecting managers to behave opportunistically where there occurs an increase in reporting units, Ahmed and Guler (2007: 4) argue that managers of companies with multiple reporting units are able to perform goodwill valuation more precisely. In this case, with more reporting units, more goodwill impairment losses will be expected as the existing losses cannot be netted against each other (Lapointe-Antunes et al., 2008: 44). Therefore, with more reporting units, managers are able to reflect the underlying economics of the companies (Guler, 2007: 51).

Applying similar arguments to the reporting units, AbuGhazaleh et al. (2011) explore the managerial discretion with respect to CGUs containing goodwill of

UK listed companies implementing IFRS 3 from 2005-2006. They argue that compared to companies with a single CGUs, companies with multiple CGUs are expected to perform more impairment tests of goodwill (AbuGhazaleh et al., 2011: 179). Consequently, these companies may report higher goodwill impairment losses as the existing impairment losses cannot be netted against one another (AbuGhazaleh et al., 2011: 179).

On the contrary, it is possible for managers of companies with multiple CGUs to exploit the number of CGUs by accelerating, avoiding or understating reporting goodwill impairment losses (AbuGhazaleh et al., 2011: 180). They exemplify, to accelerate goodwill impairment losses, managers of companies with multiple CGUs could allocate a large portion of the purchased goodwill to CGUs that are anticipated to decline in value; to avoid or understate goodwill impairment losses, the managers could allocate the purchased goodwill to CGUs that are anticipated to rise in value (AbuGhazaleh et al., 2011: 180).

Because of the two different aspects of the argument, no prediction sign is provided by AbuGhazaleh et al. (2011). Using a dichotomous variable, equal to one when companies have more than one CGUs and zero otherwise, AbuGhazaleh et al. (2011: 188) observed that the two variables are non-significant in explaining the measurement of goodwill impairment by UK listed companies (AbuGhazaleh et al., 2011: 190).

To compare the results of this thesis with the UK data, in the first stage of the analysis (see Model 1 in Section 8.3.3), a dummy variable for the cash-generating-unit ($CGUs_{01}$) is employed. Similar to AbuGhazaleh et al. (2011: 178), the variable is defined as a dichotomous variable, equal to one if a company has more than one CGUs at the end of the current period, and zero otherwise (see Appendix 1 of the thesis). Accordingly, the following hypothesis is developed both in a null form and an alternate form:

$H_{14A\text{-}Null}$: *Ceteris paribus*, there is no significant association between companies' decisions in reporting goodwill impairment losses and the multiple CGUs goodwill ($CGUs_{01}$).

$H_{14A\text{-}Alternative}$: *Ceteris paribus*, there is a significant association between companies' decisions in reporting goodwill impairment losses and the multiple CGUs containing goodwill ($CGUs_{01}$).

The limitation of using a dichotomous variable is that it leads to loss of information (Farrington and Loeber, 2000: 103). It appears that by dichotomising the CGUs, AbuGhazaleh et al. (2011) have treated all companies with multiple CGUs as equivalent. They (p. 199) explain that the CGUs is measured as a dichotomous variable because many of the UK listed companies analysed do not disclose the number of CGUs - these companies 'simply stating that goodwill is allocated to "multiple" units'.

To overcome the issue of dichotomisation discussed above, in the second stage of the analysis (see Model 2 in Section 8.3.3), this thesis employs a continuous variable ($CGUs_{Continous}$) for the CGUs. Specifically, $CGUs_{Continous}$ is defined as the actual number of CGUs containing goodwill disclosed in the annual reports by Malaysian listed companies at the end of the current year (see Appendix 1 of the thesis). However, to identify the number of CGUs requires careful inspection of the companies' Notes to the Financial Statement. This is where the semi-structure interviews conducted at the beginning of the PhD are advantageous, as the interviews provide insight into how companies identify their CGUs (see Section 3.2.5).

As there are no prior studies analysing the association between $CGUs_{Continous}$ and reporting goodwill impairment losses, no prediction sign is provided in this thesis. Thus, the following hypothesis is developed, both in a null form and an alternate form:

$H_{14B\text{-}Null}$: *Ceteris paribus*, there is no significant association between companies' decisions in reporting goodwill impairment losses the number of CGUs ($CGUs_{Continous}$).

$H_{14B\text{-}Alternative}$: *Ceteris paribus*, there is a significant association between companies' decisions in reporting goodwill impairment losses and the number of CGUs ($CGUs_{Continous}$).

5.8.2 Discount rates employed in estimating the recoverable amount CGUs containing goodwill

The application of discount rates in estimating the recoverable amount of assets including goodwill is one of the important factors in determining whether there is any impairment charge (PricewaterhouseCoopers, 2008: 8) (see detailed discussion in Section 4.4.2). It requires managers to exercise judgement in which a change in the discount rate may have an impact on the recoverable amount of the assets (PricewaterhouseCoopers, 2008: 3).

Prior studies of asset write-offs and goodwill impairment focusing on US and Canadian listed companies do not examine whether the discount rates applied by companies have any influence on their decisions to report goodwill impairment losses. This is because (for these companies), goodwill valuation is based on fair value instead of the recoverable amount. Because of the lack studies analysing the discount rates in relation to companies' decisions in reporting goodwill impairment losses, to analyse the issue of the discount rates, the researcher has referred to the results of the disclosure studies examining discount rates disclosed by companies which implement FRS 3. Three of the key findings of these studies that relate to the discount rates, and which are of interest to this thesis, are: (i) there is a wide span of discount rates employed by listed companies (see Section 5.8.2.1), (ii) the majority of companies employed a single discount rate on a blanket basis to all CGUs (see Section 5.8.2.2), and (iii) there are companies which do not disclose the discount rate employed (see Section 5.8.2.3).

5.8.2.1 Wide span of discount rates (DISCRATE)

Prior studies (Glaum et al., 2007: 9; Carlin and Finch, 2011) observed a wide span of discount rates employed by listed companies. Glaum et al. (2007:9), for example, found that the discount rates of 357 blue-chips companies from 17 European countries for financial year ended 2005 ranged from 4% to 34%, with high proportion of companies applying a rate of between 7% and 9%. Likewise, Carlin and Finch (2011) documented that the discount rates of the 200 large Australian listed companies with financial year ended 2006 which they examined ranged from 5.7% to 40%, with a mean discount rate of 12.3%.

Carlin and Finch (2009) argued that companies may manipulate reported earnings via the estimated discount rates. For example, to accelerate goodwill impairment losses, companies may estimate very high discount rates; to avoid reporting goodwill impairment loss, excessively low discount rates will be selected (Carlin and Finch, 2009).

However, Gallery (2009: 337) opines that managers may select discount rates which are specific to CGUs, and these discount rates could be excessively high or low compared to the discount rates employed by other companies. Gallery (2009) argue that the specific discount rates selected by managers are because they attempt to signal the underlying value of the CGUs rather than to manipulate reported earnings.

In view of the above discussion, this thesis attempts to explore the relationship between companies' application of discount rates (DISCRATE) and the decisions in reporting goodwill impairment losses. The discount rate (DISCRATE) is defined as the percentage of discount rate employed by companies in estimating the recoverable amount of CGUs containing goodwill which is disclosed in the annual reports at the end of the current year (see Appendix 1 of the thesis). Because there is no empirical evidence which has tested this variable, no prediction sign is formed in the following hypothesis, which is developed both in a null form and an alternate form:

$H_{15A\text{-}Null}$: *Ceteris paribus*, there is no significant association between companies' decisions in reporting goodwill impairment losses and the percentage of discount rates employed (DISCRATE).

$H_{15A\text{-}Alternative}$: *Ceteris paribus*, there is a significant association between companies' decisions in reporting goodwill impairment losses and the percentage of discount rates employed (DISCRATE).

5.8.2.2 Application of either a single discount rate or multiple discount rates (DISCMULTIPLE)

The second issue related to the discount rates revealed by the disclosure study in relation to goodwill impairment is the application of either a single

discount rate or multiple discount rates to estimate the recoverable amount of CGUs containing goodwill. Carlin et al. (2010a: 90-91), for example, reported that of the 168 Singaporean listed companies which implement FRS 36 *Impairment of Assets*, more than half of the companies applied a single explicit discount rate. A similar result is also found for Hong Kong listed companies by Carlin et al (2010b: 15).

Given the large number of companies employing a single discount rate to estimate the recoverable amount of CGUs containing goodwill (despite companies having more than one CGU), it would be interesting to analyse whether applying a single discount rate or multiple discount rates would influence a company's decision to report goodwill impairment losses. Application of either a single or multiple discount rates is defined as a dichotomous variable, equal to one if a company applies multiple discount rates, zero if the company applies a single discount rate at the end of the current year (see Appendix 1 of the thesis). The following hypothesis is developed both in a null form and an alternate form:

$H_{15B\text{-}Null}$: *Ceteris paribus*, there is no significant association between companies' decisions in reporting goodwill impairment losses and the application of multiple discount rates (DISCMULTIPLE).

$H_{15B\text{-}Alternative}$: *Ceteris paribus*, there is a significant association between companies' decisions in reporting goodwill impairment losses and the application of multiple discount rates (DISCMULTIPLE).

5.8.2.3 Discount rate – Disclosed/Not disclosed ($DISCRATE_{Disclosed/Not}$)

Thus far, the only published study analysing the disclosure of goodwill impairment after the implementation of FRS 3 in Malaysia is carried out by Carlin et al. (2009: 91). Specifically, Carlin et al. (2009: 91) analyse the disclosure of goodwill impairment by 36 listed companies in Malaysia for the financial year ended December 2006. They found (p. 91) that of the 36 listed companies examined, 40% of the companies do not disclose the discount rates. The finding of Carlin et al. (2009: 91) leads the researcher to explore

whether a company's decision not to disclose the discount rate, has any influence on their decisions with regard to reporting goodwill impairment losses. To explore this issue, a dichotomous variable $DISCRATE_{Disclosed/Not}$ is created, which is equal to one if a company does not discloses the discount rate, and zero otherwise (see Appendix 1 of the thesis). The following hypothesis is developed both in a null form and an alternate form:

$H_{15C\text{-}Null}$: *Ceteris paribus*, there is no significant association between companies' decisions in reporting goodwill impairment losses and the decision not to disclose the discount rates ($DISCRATE_{Disclosed/Not}$).

$H_{15C\text{-}Alternative}$: *Ceteris paribus*, there is a significant association between companies' decisions in reporting goodwill impairment losses and the decision not to disclose the discount rates ($DISCRATE_{Disclosed/Not}$).

Finding a significant association between companies' decisions in reporting goodwill impairment losses and the decision not to disclose the discount rates employed ($DISCRATE_{Disclosed/Not}$) points to the possibility of accounting choices related to goodwill impairment being exercised as these companies appear to hide the discount rate that they employed in the estimation of the recoverable amount of the CGUs containing goodwill.

5.9 Control variables

Four variables are included in this thesis to control for the effect of company-specific factors (see Sections 5.9.1 to 5.9.4).

5.9.1 Size of company (SIZE)

SIZE variable is included to control for any differential size effects on companies' decisions in reporting goodwill impairment losses. Prior studies suggested that large companies might receive more public exposure, e.g. through a high level of scrutiny from analysts (Guler, 2007; Zang, 2008). As a

result, studies analysing companies' decisions in reporting goodwill impairment losses argue that managers of large companies might be less likely to manipulate reported earnings through reporting goodwill impairment losses (Zang, 2008).

On the other hand, prior studies examining accounting method choice argue that in an attempt to avoid political costs, managers of large companies have greater incentives to reduce reported earnings by selecting an income-decreasing accounting method (Lilien and Pastena, 1982: 158; Watts and Zimmerman, 1990: 140; Jeter et al., 2008: 166). Applying this argument in the context of goodwill impairment losses, it is possible for large companies to reduce reported earnings by taking large goodwill impairment losses. Thus, in this case, increase in companies' size may lead to an increase in the likelihood or magnitude of goodwill impairment losses reported.

The empirical evidence analysing companies' decisions in reporting goodwill impairment losses and companies' size documented either a positive association between the two variables (e.g. Francis et al., 1996: 125-126; Beatty and Weber, 2006: 281; Guler, 2007: 73; Zang, 2008: 52; Omar and Mohd-Saleh, 2011: 403) or no significant association (e.g. Ramanna and Watts, 2012; AbuGhazaleh et al., 2011: 190).

In this thesis, similar to AbuGhazaleh et al. (2011: 179), SIZE is defined as the natural logarithm of total assets at the end of the prior period (see Appendix 1 of the thesis). In view of the mixed results discussed above, no prediction sign is formed on the association between SIZE and companies' decisions in reporting goodwill impairment losses. The following hypothesis is developed both in a null form and an alternate form:

$H_{16\text{-Null}}$: *Ceteris paribus*, there is no significant association between companies' decisions in reporting goodwill impairment losses and size of companies (SIZE).

$H_{16\text{-Alternative}}$: *Ceteris paribus*, there is a significant association between companies' decisions in reporting goodwill impairment losses and size of companies (SIZE).

5.9.2 Types of industry (INDUSTRYG5)

Watts and Zimmerman (1990: 152) argue that accounting numbers are applied in different ways across industries. Accordingly, differences in the opportunities afforded to different types of industry might influence accounting method choice (Watts and Zimmerman, 1990: 152). Industry effects might include competition (Bens, 2006: 292) and deterioration within an industry (Zang, 2008: 48). To control for the industry effect, this thesis incorporates industry variable in the statistical model.

To date, empirical studies examining industry effect as a control variable found no statistically significant association between companies' decisions in reporting goodwill impairment losses and the industry variable (e.g. Beatty and Weber, 2006; Zang, 2008; AbuGhazaleh et al., 2011: 195).

In this thesis, the industry variable is initially measured as a dummy variable across 10 industry categories based on Datastream Industrial classification level 2. However, due to the lack of data in five industries, this industry group is reduced to five (see Section 8.2.2.3). The baseline for the INDUSTRYG5 is Industrial and basic materials (see Appendix 1 of the thesis). Because of the mixed evidence presented by prior studies, no prediction sign is formed on the association between INDUSTRYG5 and their companies' decisions in reporting goodwill impairment losses. The following hypothesis is developed both in a null form and an alternate form:

$H_{17\text{-Null}}$: *Ceteris paribus*, there is no significant association between companies' decisions in reporting goodwill impairment losses and industry (INDUSTRYG5).

$H_{17\text{-Alternative}}$: *Ceteris paribus*, there is a significant association between companies' decisions in reporting goodwill impairment losses and industry (INDUSTRYG5).

5.9.3 Financial year-end (YEND)

Financial year-end[45] dummy variable is created to control for the time period, especially when this thesis investigates accounting choices related to goodwill impairment covering a three year period beginning from the first year of the implementation of FRS 3. DeAngelo (1988: 24), in her investigation of accounting performance measures in 86 proxy contests of US listed companies, explains that learning opportunities potentially affect the degree of income manipulation. With time, outsiders have a chance to learn about the scope of accounting discretion available to management (DeAngelo, 1988: 24).

Applying the argument of learning opportunities provided by DeAngelo (1988), this thesis argues that within a three-year period, managers might have opportunities to learn about the available degree of discretion in performing an impairment test of goodwill. Alternatively, it might also provide learning opportunities for auditors to learn about the available discretion exercised by managers.

AbuGhazaleh et al. (2011: 179) control the two-year period in their study by creating a year dummy variable for each financial year-end. Their empirical result shows that the financial year-end of companies is non-significant in explaining the measurement of goodwill impairment (p. 191).

In this thesis, a financial year-end dummy variable (YEND) is measured as a dummy variable across three financial year-end categories (i.e. 2006, 2007, and 2008) based on Datastream classification. The baseline for the YEND is financial year ended 2006 (see Appendix 1 of the thesis). The following hypothesis is developed both in a null form and an alternate form:

[45] There is no statutory prescription of the date for a year end. Year ends vary from company to company in Malaysia as there are companies with December year-end and also companies with other than December year-end, such as February year-end (see Figure 6.1 in Section 6.3 for detailed description of the year ends).

$H_{18\text{-Null}}$: *Ceteris paribus*, there is no significant association between companies' decisions in reporting goodwill impairment losses and their financial year-end (YEND).

$H_{18\text{-Alternative}}$: *Ceteris paribus*, there is a significant association between companies' decisions in reporting goodwill impairment losses and their financial year-end (YEND).

5.9.4 Additions to goodwill (ADD)

AbuGhazaleh et al. (2011: 183) employ a dummy variable which captures any additions to goodwill arising from business acquisition within the financial year. They (p. 183) explain that the variable may proxy for merger and acquisition activities carried out by companies. With an annual impairment review of goodwill, companies which are involved in an acquisition that creates goodwill are more likely to identify and write-off any overpayment related to the acquisition (AbuGhazaleh et al., 2011: 183). Accordingly, AbuGhazaleh et al. (2011: 190) predict a positive association between companies' decisions in reporting goodwill impairment losses and additions to goodwill. Their multivariate analysis reveals a statistically significant positive association between the two variables at p-value less than 0.05 (AbuGhazaleh et al., 2011: 190). Apart from AbuGhazaleh et al. (2011), none of the prior studies analysing goodwill impairment has explored companies' additions to goodwill.

Similar to AbuGhazaleh et al. (2011: 179), this thesis employs a dummy variable which measure companies' additions to goodwill. The variable (ADD) is defined as a dichotomous variable, equal to one if a company has additions to its goodwill arising from business acquisitions during the financial year, and zero if there is no addition (see Appendix 1 of the thesis). Following the findings of AbuGhazaleh et al. (2011), this thesis predicts a positive association between companies' decisions in reporting goodwill impairment losses and the additions to its goodwill (ADD). The following hypothesis is developed both in a null form and an alternate form:

$H_{19\text{-Null}}$: *Ceteris paribus*, there is no significant association between companies' decisions in reporting goodwill impairment losses and additions to goodwill (ADD).

$H_{19\text{-Alternative}}$: *Ceteris paribus*, there is a significant positive association between companies' decisions in reporting goodwill impairment losses and additions to goodwill (ADD).

5.10 Summary

This chapter has developed hypotheses to test both the measurement and the recognition studies related to goodwill impairment exercised by Malaysian listed companies after the implementation of FRS 3. The choice of these hypotheses has been driven by several aims, namely to: compare Malaysian findings with those of a prior study analysing UK data (i.e. AbuGhazaleh et al., 2011); incorporate variables that capture the characteristics of listed companies in Malaysia; include variables which are pertinent to understanding the measurement of goodwill impairment but which are not tested by AbuGhazaleh et al. (2011); and as part of the robustness test by replacing $Earnings_{Prior}$ as employed by AbuGhazaleh et al. (2011) with $Earnings_{PreGWILcurrent}$ and $\Delta EARNINGS_{preGWIL}$ (see Section 5.3).

The dependent variable for the measurement study is the magnitude of goodwill impairment losses divided by prior year total assets (including goodwill), and zero otherwise reported on the income statement (see Table 5.1 in Section 5.2). The dependent variable for the recognition study is a dichotomous variable, equal to one when companies are considered as exercising a recognition choice related to reporting zero goodwill impairment, and zero otherwise.

To test the measurement and the recognition studies, factors potentially influencing the accounting choices related to goodwill impairment are grouped into six categories. These are: economic factors (see Section 5.4), contracting perspective (see Section 5.5), opportunistic behaviour perspective (see Section 5.6), ownership structures (see Section 5.7), and discretion

available in performing an impairment test of goodwill (see Section 5.8). Company-specific factors are included as control variables (see Section 5.9).

Chapter 6: Research Design and Methods

6.1 Introduction

This chapter has three main purposes. Firstly, it discusses the methodological position adopted by this thesis. Secondly, it describes the total population of Malaysian listed companies which implemented FRS 3 in the first three years of the standard taking effect (from 2006/7 to 2008/9), and discusses the process of validating the Datastream source data. At the end of the discussion, the final number of Malaysian listed companies which are available for the analysis of accounting choices related to goodwill impairment is specified. Thirdly, it outlines the research design and the statistical tests for the three empirical chapters - disclosure, measurement, and recognition studies of goodwill impairment.

This chapter is structured into ten sections including the introduction. Section 6.2 discusses the underlying methodological position of this thesis. Section 6.3 outlines the total population of Malaysian listed companies which implemented FRS 3 from 2006/7 to 2008/9. Section 6.4 describes the procedures involved in validating the Datastream source data. Section 6.5 describes the research design including the data specification and research method for the disclosure study. Section 6.6 discusses the descriptive statistics and various statistical tests for both the measurement and recognition studies. Sections 6.7 and 6.8 discuss the multivariate analyses for the measurement study and recognition study respectively. Section 6.9 describes the test statistics to be conducted in order to assess the goodness-of-fit of the regression models for the measurement study and recognition study. Section 6.10 summarises the chapter.

6.2 Methodological position

Burrell and Morgan (1979: 22) propose four paradigms for the analysis of social theory. These are: radical humanist, radical structuralist, functionalist, and interpretive. They (p. 1) argue that these paradigms are built upon different

sets of assumptions about the nature of social science and the nature of society. In the terminology of Burrell and Morgan (1979), this thesis fits within the functionalist paradigm. To Burrell and Morgan (1979: 22), the functionalist paradigm is 'rooted in the tradition of sociological positivism'. Therefore, this thesis takes a positivist research approach in analysing accounting choices related to goodwill impairment by Malaysian listed companies. Before discussing the rationale for adopting such approach, the following paragraphs first discuss the four sets of assumptions related to ontology, epistemology, human nature, and methodology, as underlined by Burrell and Morgan (1979), and then explain how these assumptions are applied in this thesis.

Firstly, Burrell and Morgan (1979: 1) explain that assumptions of an ontological nature relate to the very essence of the issue investigate. A basic ontological question includes whether 'reality', which is to be investigated is external to the researcher, or is it a product of individual consciousness (*ibid*, p.1). For positivists, their ontological assumption is that reality is external and objective (Easterby-Smith et al., 2002: 28). In the context of this thesis, the ontological approach is mainly based on objective information. The primary source of information applied in the analysis of accounting choices related to goodwill impairment by Malaysian listed companies are based on factual data obtained from companies' annual reports and the Datastream database.

Secondly, Burrell and Morgan (1979: 1) state that assumptions of epistemological nature concern the ground of knowledge, i.e. how a researcher begins to understand the world and convey this understanding as knowledge to others. For positivists, their epistemological assumption is that knowledge is only significant if it is based on observations of external reality (Easterby-Smith et al., 2002: 28). With this epistemology, positivists attempt to 'explain and predict what happens in the social world by looking for regularities and causal relationship between its constituents elements' (Burrell and Morgan, 1979: 5). They view the development of knowledge as a cumulative process whereby new insights are added to the existing knowledge and false hypotheses are eliminated (Burrell and Morgan, 1979: 5). This view is in sharp contrast with anti-positivists, who see social world as relativistic by

its nature, and can only be understood from the perspective of individuals who are directly involved with the issue under investigation (Burrell and Morgan, 1979: 5). In the context of this thesis, it is the researcher's belief that adopting the positivist approach does not in itself preclude perspectives of individuals who are directly involved with the implementation decisions related to reporting goodwill impairment. For this reason, information gathered from semi-structured interviews with key personnel who were involved with the implementation of FRS 3 assisted the researcher in the collection of data (see Section 5.8.1) and in designing a specific research setting (see Section 9.2.1), prior to the analysis of data using the positivist approach.

Thirdly, according to Burrell and Morgan (1979: 1), assumptions of human nature involve the relationship between human being and their environment, i.e. how human beings respond to situations faced in the external world. Two extreme perspectives of this model of human nature are discussed by Burrell and Morgan (1979: 2), namely, determinism and voluntarism. From a deterministic viewpoint, human beings and their experiences are seen as products of the environment (*ibid*, p.2). On the other hand, advocates of voluntarism see human beings as having free-will and creators of their environment (*ibid*, p.2). This thesis neither supports the assumption of determinism nor the idea of voluntarism. Instead, it takes a middle position between these two perspectives by assuming that top managers of Malaysian listed companies exercise some control over the corporate environment based on their high position. However, due to the existence of regulatory bodies in Malaysia, their control might be limited.

Burrell and Morgan (1979: 2) clarify that the three sets of assumptions related to ontology, epistemology, and human nature have a direct implication of a methodological nature. They (p. 2) elaborate that, with different ontologies, epistemologies, and models of human nature, social scientists would have different methodologies.

As noted earlier, a positivist research approach is adopted in analysing accounting choices related to goodwill impairment by Malaysian listed companies. The approach is considered appropriate as this thesis is concerned

with testing theory. With the positivist research approach, two perspectives of accounting choice (i.e. the contracting perspective and the opportunistic behaviour perspective) are outlined at the outset (in Chapter 2). Hypotheses are then formulated (in Chapter 5) from these perspectives and the characteristics of Malaysian listed companies (in Chapter 3) plus the discretion related to impairment test of goodwill (such as CGUs and discount rates, discussed in Chapter 4). Rigorous tests are conducted (in Chapters 8 and 9) in an attempt to falsify these hypotheses through a large empirical observation.

An advantage of the positivist research approach is that by requiring a large empirical observation, it allows a researcher to answer the 'what' questions which cover many situations (e.g. RQ 4: To what extent do the decisions of Malaysian listed companies in measuring goodwill impairment indicate that they reflect the underlying economic values of cash-generating-units containing goodwill?; RQ 5: To what extent do the decisions of Malaysian listed companies in measuring goodwill impairment support the contracting perspective? – see Section 1.3 for detail). In addition, the positivist research approach necessitates a clearly specified research method with well-defined variables. This makes it easier for other researchers to replicate the study. Therefore, claims made by the researcher can be publicly scrutinised. This might be of relevance to standard setters, in particular the MASB and the IASB, who might be interested to see the overall influence of the implementation of (I)FRS 3 related to goodwill impairment. Moreover, this is a practical approach due to the difficulties in getting access to top managers of Malaysian listed companies (see Section 3.2.5).

6.3 Total population of Malaysian listed companies which implemented FRS 3 *Business Combinations* from 2006/7-2008/9

As noted in Section 4.2 (see Figure 4.1), in Malaysia, FRS 3 was effective for listed companies with business combinations on or after January 1, 2006. This thesis focuses on Malaysian listed companies which implemented FRS 3 for the first three years of the standard taking effect. Figure 6.1 specifies the three-year period of investigation with the respective dates of the business combinations and companies' financial year-ends.

Data analysed in this thesis has been obtained from Datastream, and from companies' annual reports, which are available at the website of Bursa Malaysia (See Appendix 1 of the thesis for detailed of the data sources). To identify companies which implemented FRS 3 in the first three years, these companies must either have goodwill balances or reported goodwill impairment losses, in any of the three years. Table 6.1 presents the total number of companies which implemented FRS 3 within three-years of the standard taking effect. The table shows that 556 companies implemented FRS 3 in the first year, 516 companies implemented FRS 3 in the second year, and 491 companies implemented FRS 3 in the third year. There are different numbers of companies in different years because some companies have fully impaired their goodwill or have goodwill balance for the first time in the year of analysis. 381 companies were present throughout the three-year period of investigation.

Figure 6.1: The first three years of the implementation of FRS 3

Financial year-end (FYE)	Date of business combinations	Year of FRS 3 implementation
December 2006	1/1/2006-31/12/2006	Initial year
From January to November 2007	Within the relevant financial year e.g. For FYE February 2007, the date of business combinations is from 1/2/2006-31/1/2007	Initial year
December 2007	1/1/2007-31/12/2007	Second year
From January to November 2008	Within the relevant financial year e.g. For FYE February 2008, the date of business combinations is from 1/2/2007-31/1/2008	Second year
December 2008	1/1/2008-31/12/2008	Third year
From January to November 2009	Within the relevant financial year e.g. For FYE February 2009, the date of business combinations is from 1/2/2008-31/1/2009	Third year

Table 6.1: Total number of companies available for analysis of accounting choices related to goodwill impairment for the first three years of the implementation of FRS 3

Panel A: Total no. of companies	**Initial year**			**Second year**			**Third year**			Total no. of firm-years
	FYE-Dec-2006	FYE –From Jan. to Nov. 2007	Total 2006/7	FYE - Dec-2007	FYE –From Jan. to Nov. 2008	Total 2007/8	FYE - Dec-2008	FYE –From Jan. to Nov. 2009	Total 2008/9	
Companies which have goodwill balance at the end of the year or companies which reported goodwill impairment losses during the financial year	313	243	556	300	216	516	298	193	491	1563
Elimination causes:										
Companies with no data for market capitalisation	8	0	8	4	2	6	1	0	1	15
Companies with no data on the book values of their net assets	1	0	1	0	5	5	6	0	6	12
Companies with no data for the prior year total assets	0	2	2	1	3	4	0	5	5	11
Companies with negative book value of net assets	9	6	15	2	1	3	5	1	6	24
Companies with no annual reports between 2006/7-2008/9	1	0	1	1	0	1	1	0	1	3
Final no. of companies	294	235	529	292	205	497	285	187	472	1498
Panel B: Partition into										
Goodwill impairment losses	77	58	135	69	54	123	67	44	111	369
Zero goodwill impairment	217	177	394	223	151	374	218	143	361	1129
Total	294	235	529	292	205	497	285	187	472	1498

From the total population of companies meeting the eligibility criterion, Table 6.1 indicates those that were excluded from the analysis due to a lack of data on: the market capitalisation, the book values of the net assets, and prior year total assets. Also, in the table, there were companies excluded because of the negative book values of their net assets, and companies which did not provide annual reports to Bursa Malaysia within the period of investigation. The exclusion of these companies resulted in the total number of companies available for analysis being reduced to 529, 497, and 472 in the first, second and third year of the FRS 3 implementation respectively.

Unlike AbuGhazaleh et al. (2011: 184), the present study does not exclude companies in the finance industry from the total population of companies which implemented FRS 3. This approach of including the finance industry is similar to the majority of studies analysing goodwill impairment by US listed companies, such as Beatty and Weber (2006), Guler (2007), Lapointe-Antunes et al. (2008), Zang (2008), and Ramanna and Watts (2012). More importantly, this approach is adopted because, in Malaysia, there is no additional reporting requirement regarding goodwill impairment imposed by the Central Bank of Malaysia under its reporting guideline.

Table 6.1 shows that out of the total number of companies which implemented FRS 3, less than 30% of them reported goodwill impairment losses. For example, in the initial implementation year, 26% of the companies (i.e. 135 out of 529 companies) reported goodwill impairment losses while the remaining 74% of the companies (i.e. 394 out of 529 companies) reported zero goodwill impairment. This large proportion of companies reporting zero goodwill impairment is quite similar to the analysis of AbuGhazaleh et al. (2011: 184), where 79% of the UK listed companies reported zero goodwill impairment. The substantial number of observations with zero values observes lead to a discussion of the tobit model (see Section 6.7.1) and the application of random-effects tobit model (see Section 6.7.2) for the measurement study of this thesis.

6.4 Validation of Datastream source data

The validation of Datastream source data is carried out with regards to two main issues. These are: the accuracy of the amount of goodwill impairment losses, and zero goodwill impairment recorded by Datastream (see Section 6.4.1), and the gap of information concerning the opening goodwill balance at the initial year of the implementation of FRS 3 (see Section 6.4.2).

6.4.1 Accuracy of the amount of goodwill impairment recorded by Datastream

The accuracy of the amount of goodwill impairment losses and zero goodwill impairment extracted from Datastream is validated by cross-checking these figures with those contained in the annual reports. The direction of checking is from Datastream to the annual reports.

For companies reporting goodwill impairment losses, the validation of data is carried out for all of the 369 annual reports of companies which reported goodwill impairment losses within the first three-year period of FRS 3 implementation (see Table 6.1). Of the 369 annual reports examined, 10 errors made by Datastream, were found in respect of different companies. The errors were: goodwill impairment losses wrongly charged as other impairment (two companies), other impairment wrongly treated as goodwill impairment losses (one company), understated goodwill impairment losses (two companies), and offsetting goodwill impairment losses with negative goodwill (five companies).

For companies reporting zero goodwill impairment, the validation of data recorded by Datastream was checked for 217 companies with the financial year ended December 2006 and for 218 companies with the financial year ended December 2008 (see Table 6.1). The financial year ended December 2006 is selected as it represents the first group of companies which implemented FRS 3 for the first time in 2006. If there is any inaccuracy in the figures recorded by Datastream, it would be likely to occur in this group. If the inaccuracy of the figures recorded by Datastream is minimal in this group, it is likely that a similar situation will also apply to other groups. Additionally,

to ensure Datastream recording of goodwill data is consistent over time, companies which reported zero goodwill impairment in the financial year ended December 2008 are also examined. With respect to the companies reporting zero goodwill impairment, two errors were found in two different companies. The errors made by Datastream were both due to wrongly recorded goodwill impairment losses in a Datastream mnemonic assigned for an intangible asset instead of Datastream mnemonic for goodwill impairment. As a result these two companies are shown by Datastream to be reporting zero goodwill impairment when in reality they have reported impairment losses.

All of the relevant data were adjusted and it was concluded that Datastream was sufficiently reliable to continue using it.

6.4.2 Gap of information concerning the opening goodwill balance at the initial year of the implementation of FRS 3

Under IAS 22 *Business Combinations* (i.e. prior to the issuance of FRS 3 *Business Combinations*), any excess of the acquirer's interest in the fair values of the identifiable assets and liabilities acquired over the cost of the acquisition is recognised as negative goodwill (IASC, 2000: IAS 22, paragraph 59[46]). IAS 22 specifies that the negative goodwill should be presented as a deduction from the assets in the same balance sheet classification as goodwill (IASC, 2000: IAS 22, paragraph 64). When FRS 3 was implemented (i.e. in 2006 in Malaysia), the standard required the excess of acquirer's interest (i.e. previously known as negative goodwill under IAS 22) to be recognised immediately in profit or loss [MASB, 2006a: FRS 3, paragraph 56(b)]. To achieve the transition from IAS 22 to FRS 3, companies were required to de-recognise their previously recognised negative goodwill balances at the beginning of the period by transferring them to equity (MASB 2006a: FRS3, paragraph 81).

[46] This study refers to IAS 22 instead of FRS 122_{2004} since FRS 122_{2004} does not deal with detailed treatment of accounting for goodwill or negative goodwill (MASB, 2004: FRS 122_{2004}, paragraph 6).

An issue which materialises is that there was an information gap concerning the opening goodwill balance at the initial year of the implementation of FRS 3 provided by Datastream. Datastream at the end of 2005 (i.e. the year before the implementation of FRS 3) reported closing goodwill balance as per IAS 22; Datastream at the end of 2006 (i.e. the first year of the FRS 3 implementation) reported closing goodwill balance as per the new FRS 3. However, the database did not provide an opening goodwill balance in 2006 on the new basis.

It is important to assess the number of companies which were affected by this gap in information provided by Datastream. This is because in the measurement and recognition studies of goodwill impairment, one variable (i.e. relative size of goodwill balance – GWB in H_6, see detailed discussion in Section 5.4.5) employs the opening goodwill balance. If the information gap involves a large number of companies, the unadjusted opening goodwill balance (based on the IAS 22) would lead to a misleading result for the variable computed.

To identify the number of companies affected, all 294 companies with financial year ended December 2006 (i.e. companies that implemented FRS 3 in the initial year) are selected for scrutiny (see Table 6.1). The examination is done by comparing these companies' closing goodwill balances in 2005 (pre-FRS 3), extracted from Datastream, with the opening goodwill balances in 2006 (post-FRS 3) as disclosed in the annual reports. The direction of checking is from Datastream to the annual reports.

Of the 294 companies, seven companies had both positive and negative goodwill balances in 2005, with five (from the 7) companies offsetting their negative and positive goodwill balances. When Datastream recorded the closing goodwill balance in 2005, it followed the companies' practices by recording the net figure of goodwill balances for the five companies. As a result, for these companies, their opening goodwill balances and opening total assets in 2006 were incorrect. All of the incorrect figures for the five companies were adjusted for the purpose of this study by excluding the negative goodwill balances from the total balances. Due to the small number of companies with incorrect opening goodwill balances (i.e. 1.7% or five of the

294 companies examined), it was concluded that Datastream was sufficiently reliable to continue using, without further checking the 235 companies having financial years ended from January to November 2007 (see Table 6.1).

The adjustments of goodwill data discussed in Sections 6.4.1 and 6.4.2 have resulted in a minor amendment to Table 6.1 to give the breakdown of the number of companies which reported zero goodwill impairment and goodwill impairment losses (see Table 6.2).

Table 6.2: The final number of companies available for the analysis of accounting choices related to goodwill impairment in the first three years of the implementation of FRS 3

	Initial year			Second year			Third year			Total no. of firm-years
	FYE-Dec-2006	FYE – Between Jan. to Nov. 2007	Total 2006/7	FYE - Dec-2007	FYE – Between Jan. to Nov. 2008	Total 2007/8	FYE - Dec-2008	FYE – Between Jan. to Nov. 2009	Total 2008/9	
Goodwill impairment losses	77	58	135	70	53[1]	123	67	44	111	369
Zero goodwill impairment	217	177	394	222	152	374	218	143	361	1129
Total	294	235	529	292	205	497	285	187	472	1498

Note:

FYE refers to financial year-end

[1] The adjustments of goodwill data as discussed in Sections 6.4.1 and 6.4.2 have resulted in a minor change to the breakdown of the number of companies which reported zero goodwill impairment and goodwill impairment losses in the second year of the FRS 3 implementation. Nevertheless, as seen in Table 6.2, the total number of companies in each of the financial years remained the same. To illustrate, in the financial years ended between January and November 2008, the number of companies which reported goodwill impairment losses have been reduced from 54 companies (see Table 6.1) to 53 companies (see Table 6.2), the number of companies which reported zero goodwill impairment have been increased from 151 companies (see Table 6.1) to 152 companies (see Table 6.2).

6.5 Research design: Disclosure study of goodwill impairment

The purpose of the disclosure study is to explore, via the annual reports of companies, types of accounting choice related to goodwill impairment exercised by Malaysian listed companies after the implementation of FRS 3 (see Section 1.3). The exploration of the types of accounting choice is conducted in two parts. Next, Sections 6.5.1 to 6.5.2 discuss the research designs for these two parts.

6.5.1 Research design: Part one of the disclosure study

In exploring the types of accounting choice, as a starting point, the disclosure study makes use of the market capitalisation indication (see Section 4.3) as one of the potential drivers of goodwill impairment. The aim of the first part of the disclosure study is to examine the appropriateness of the market capitalisation indication as an indication that goodwill may be impaired (see Research Question 2 in Section 1.3). The next sections, 6.4.1.1 to 6.4.1.2, provide the data specification and research methods for this part.

6.5.1.1 Data specification

The first part of the disclosure study is carried out by comparing two types of information, which represent the observed practice vs. stated explanation (see Section 6.5.1.2). This comparison is carried out in two ways. Firstly, it is performed across companies within one year of implementing FRS 3. From Table 6.2, this covers 294 companies with financial year ended December 2006 and a further 235 companies with financial years ended between January and November 2007. Secondly, the comparison is conducted on the same companies over a period of two years. This includes 258 companies with data available for the financial years ended December 2006 and December 2007. At this point, the numbers of companies included in the analysis (i.e. 258 companies) do not tally with the number of companies shown in Table 6.2

(i.e. 294 companies for financial-year ended December 2006 with 292 companies for financial year ended December 2007) due to the exclusion of companies with no pairs as they have either fully impaired the goodwill or have goodwill balance for the first time in 2007.

6.5.1.2 Research method

In analysing the appropriateness of the market capitalisation indication as an indication that goodwill may be impaired, the disclosure study compares two types of information, which represent the observed practice vs. stated explanation. The data compared are: (i) the market capitalisation indication of companies (i.e. where market values are lower than the book values of net assets at the balance sheet date), which is obtained from Datastream, and (ii) reasons for companies reporting goodwill impairment (both zero, and goodwill impairment losses) disclosed in the Notes to the Financial Statement (see Section 1.4.1). The comparison of these two types of information (conducted in the disclosure study – see Section 7.2) leads to observation of three groups as follow:

- Group 1 – Companies with poor disclosure, which do not provide reasons for reporting goodwill impairment in the Notes to the Financial Statement.
- Group 2 – Companies whose market capitalisation indications conflicts with their stated reasons for reporting goodwill impairment as disclosed in the Notes to the Financial Statement.
- Group 3 – Companies whose market capitalisation indications reflect their stated reasons for reporting goodwill impairment as disclosed in the Notes to the Financial Statement.

To determine whether the market capitalisation indication is an appropriate proxy for an indication that goodwill may be impaired, the number of companies in each of the three groups is computed. If the number of companies in Group 3 greatly exceeds the other groups, this suggests that the market capitalisation indication is an appropriate proxy as it reflects companies' reasons for reporting goodwill impairment. Alternatively, if the

number of companies in Group 2 far exceeds other groups, this implies that the market capitalisation indication is not an appropriate proxy.

6.5.2 Research design: Part two of the disclosure study

Following the results of the first part of the disclosure study, the second part of the study is conducted. In this second part, the aim is to identify types of accounting choice related to goodwill impairment exercised by Malaysian listed companies after the implementation of FRS 3. Sections 6.5.2.1 to 6.5.2.2 provide the data specification and research method for this part.

6.5.2.1 Data specification

The constraint of manual data collection, limits the second part of the disclosure study to 20 companies selected from the results of the first part of the study. These 20 companies are from the Group 2 category (i.e., companies whose their market capitalisation indication conflicts with their stated reasons for reporting goodwill impairment as disclosed in the Notes to the Financial Statement) (see Section 6.5.1.2). FRS 136 requires companies to disclose detailed information regarding material goodwill impairment losses (MASB, 2006c: FRS 136, paragraph 130). Thus, the 20 companies selected are those companies which reported goodwill impairment losses (companies which reported zero goodwill impairment are excluded from the analysis). By focusing on these companies, it is expected that there will be higher chances for these companies to provide detailed disclosure, particularly if they considered the impairment losses reported to be material.

6.5.2.2 Research method

To identify the types of accounting choice related to goodwill impairment exercised by Malaysian listed companies, a disclosure framework is constructed. As shown in Figure 6.2, the disclosure framework takes into account six key items of data. The first item of information to be analysed is the goodwill data. From this, a CGU containing goodwill that was impaired is identified. Focusing on the CGU, the second item of information to be

analysed is the segment result of the CGU (obtained from segment reporting). The segment result is included in the analysis in order to reflect the performance of the CGUs (see Section 4.4.2). By incorporating this, the disclosure study will be able to provide indirect empirical evidence on whether it is possible to employ the segment result as an additional proxy for an indication that goodwill may be impaired (see Section 7.3.3). The third key item of data which is required is financial performance, including net income (after adding back goodwill impairment loss) available to equity holders, and basic earnings per share (EPS). The fourth item of information is the market capitalisation indication. The fifth item of information is reasons for reporting goodwill impairment loss disclosed in the Notes to the Financial Statement. The last item of information is any comment in the audit report relating to goodwill. All of the information required is obtained from annual reports.

Figure 6.2: A self-constructed disclosure framework for identifying types of accounting choice related to goodwill impairment exercised by Malaysian listed companies

1. Goodwill data (a) Opening goodwill balance (b) Additions[47] (c) Miscellaneous – e.g. Dilution of equity interest in subsidiaries (d) Goodwill impairment losses (e) Disposed (f) Closing goodwill balance (g) Allocation of goodwill to CGUs (h) Basis of recoverable amount (i) Accounting policy – Goodwill
2. Segment result (a) Number of segments (b) Segment result of an impaired goodwill
3. Financial performance (a) Net income (after adding back goodwill impairment loss) available to equity holders (b) Basic EPS (cents)
4. The market capitalisation indication • Companies' market values lower than the book values of their net assets at the balance sheet date
5. Reasons for reporting goodwill impairment loss disclosed in

[47] When companies disclosed detailed information concerning their newly acquired goodwill, this information will also be analysed by the researcher [e.g. see Table 7.6(b)].

the Notes to the Financial Statement
6. Audit report – any comment concerning goodwill

To ensure consistency in collecting and analysing the data, the six key items of data as shown in Figure 6.2 are compiled into a table for each of the 20 companies (for e.g. see Table 7.3 for an application of this disclosure framework in one company). Using the tabulated information, an analysis will be carried out in Chapter 7 for each of the 20 companies selected over several years (depending on the traceability of goodwill impairment losses backward from the write-off year to the acquisition year).

6.6 Statistical tests to be carried out for both the measurement and recognition studies of goodwill impairment

Statistical tests discuss in this section cover three aspects, namely, descriptive statistics (in Section 6.6.1), missing value analysis (in Section 6.6.2), and detecting multicollinearity (in Section 6.6.3).

6.6.1 Descriptive statistics

The descriptive statistics discuss in this section include the normality test (see Section 6.6.1.1) and univariate analysis (see Section 6.6.1.2). These descriptive statistics are applied in the measurement study and recognition study (see Section 1.3 for the specific research question developed for these two studies).

6.6.1.1 Normality test

The normality test for the dependent variable of the measurement study is conducted in two ways. Firstly, the skewness and kurtosis values of the dependent variable are computed. According to Field (2005: 73), skewness of +/- 1.96 and Kurtosis of +/- 3.29 are within the normality threshold. Secondly, the Kolmogorov-Smirnov test and Shapiro-Wilk test are performed. For the data to be normally distributed, the Kolmogorov-Smirnov test and Shapiro-

Wilk test carried out will produce a p-value which is non-significant, that is, p-value greater than 0.05 (Pallant, 2001: 58). A significance of p-value less than 0.05 suggests that the assumption of normality is violated (Pallant, 2001: 58).

6.6.1.2 Univariate analysis

To understand the distribution of data for each of the independent variables and control variables, descriptive statistics such as mean, median and standard deviation will be examined. The descriptive statistics will assist in identifying whether the data is skewed and in detecting any variables that suffer from high frequency of missing values.

In addition, univariate analysis will be conducted in order to evaluate the relationship between each of the independent variables and the dependent variable for the measurement study (see Section 8.2.2) and the recognition study (see Section 9.2.2). Both parametric and non-parametric tests are employed. For the parametric test, a t-test is employed, which assesses the difference in the mean scores. For the non-parametric test, Mann-Whitney U test is employed, which assesses the difference in the median score. For the categorical variables, the Chi-square test of independence is applied. The Chi-square test of independence examines the relationship between two categorical variables (Tabachnick and Fidell, 2007: 58).

6.6.2 Missing values analysis

Tabachnick and Fidell (2007: 62-63) explain that there are three types of missing value which could occur in any research. These are: missing *completely* at random (MCAR), missing at random (MAR), and missing not at random (MNAR). If the missing values are non-random, the generalisability of results will be affected (Tabachnick and Fidell, 2007: 62).

To detect the type of missing values, missing values analysis is conducted (see Sections 8.2.2.2, and 9.2.1). The analysis includes Little's MCAR test and

Separate Variance *t* tests. The Little's MCAR test is performed in order to see whether the data are missing *completely* at random (Tabachnick and Fidell, 2007: 63). The null hypothesis for the Little's MCAR test is that the data are missing *completely* at random (*ibid., p.* 63). If the test produces statistically non-significant p-value (i.e. p-value greater than 0.05), the null hypothesis cannot be rejected, hence the data are missing *completely* at random (*ibid., p.* 63). Alternatively, if the test generates a statistically significant result (i.e. p-value less than 0.05), suggesting that the data are not missing *completely* at random, Separate Variance t tests are carried out (*ibid., p.* 63).

The Separate Variance *t* tests aim to identify whether the missing value is related to any other variables (*ibid., p.* 63). The test is performed by SPSS only for variables with at least 5% of data missing (*ibid., p.* 63). Focusing on each of the selected variables, the Separate Variance *t* tests define two groups of cases, a group with missing value and another group with non-missing value (*ibid., p.* 63). A test of mean differences between the two groups is conducted in order to examine whether the two groups are different from each other on a series of variables (both the dependent and independent variables) (*ibid., p.* 63). If the *t* test shows that the missing values are related to the dependent variable, then the missing values are inferred as non-random (*ibid., p.* 63). On the other hand, if the missing value is predictable from variables other than the dependent variable, the data are inferred as missing at random (MAR) (*ibid., p.* 63).

6.6.3 Detecting multicollinearity

To examine the issue of multicollinearity between the independent variables, Pearson's product-moment correlation coefficient test and Variance inflation factor (VIF) are performed in the measurement study (see Section 8.3.2) and the recognition study (see Section 9.3). As a rule of thumb, Gujarati and Porter (2009: 338) suggest that a high pair-wise correlation coefficient between two regressors, i.e. in excess of 0.8, indicates an issue of multicollinearity. According to Gujarati and Porter (2009: 340) if the VIF of a variable exceeds 10, the variable is said to be highly collinear.

6.7 Multivariate analysis to be carried out for the measurement study of goodwill impairment

Multivariate analysis evaluates the relationship of an independent variable to both the dependent variable and other independent variables in one regression model (Norusis 2000: 464). The multivariate analysis discusses in this section covers two aspects – the tobit model (see Section 6.7.1) and the random-effects tobit model (see Section 6.7.2).

6.7.1 Censored regression model: Tobit model and the random-effects tobit model

The dependent variable for the measurement study is the magnitude of goodwill impairment losses divided by prior year total assets (including goodwill), and zero otherwise reported on the income statement (see Table 5.1). This dependent variable possesses four characteristics. Firstly, it is referred to as a limited dependent variable because its value is limited in its range to non-negative values. Maddala (1996: 1) explains that a limited dependent variable is a variable which is 'limited in its range because of some underlying stochastic choice mechanism'. Secondly, from Table 6.2, it is observed that the dependent variable comprises a substantial number of observations with zero values. Thirdly, the remaining observations take on a wide range of values above the limit. Finally, there are repeated observations. These four characteristics of the dependent variable necessitate the measurement study of this thesis to employ a censored regression model, known as random-effects tobit model, with the censoring at zero value. Section 6.7.2 discusses in detail the random-effects tobit model. However, before discussing the random-effects tobit model in Section 6.7.2, a brief discussion of the tobit model is presented in the following paragraphs.

The tobit model was first studied in economics by Tobin (1958) (Amemiya, 1984; Maddala, 1996: 151). The model is applied to a dependent variable with the following three criteria: (i) the dependent variable has a lower or upper limit, (ii) a substantial number of observations take on the limiting value, and (iii) the remaining observations take on a wide range of value above (or

below) the limit (Tobin, 1958: 24; Amemiya, 1973; 998). Tobin (1958: 25) explains that the concentration of observations at the limiting value resulted in an application of Ordinary Least Square (OLS) being inappropriate, as the assumption of linearity required in the OLS is not met (Tobin, 1958: 25). Consequently, employing OLS leads to bias and inconsistent estimates of the parameters (Gujarati and Sangeetha, 2007: 629).

The tobit regression model is estimated using the method of maximum likelihood (Gujarati, 1995: 573). The maximum likelihood function consists of two terms (Greene, 2008: 875). The first term is the non-censored observations, which the maximum likelihood estimation treats in the same way as a linear regression model (Greene, 2008: 875). The second term is the censored observations with its value based on the probability of being censored and using this value in the likelihood equation (Greene, 2008: 875).

6.7.2 Random-effects tobit model

As noted in Section 1.4.2, the measurement study tests the total population of Malaysian listed companies which implemented FRS 3 in the first three years of the standard taking effect. From Table 6.2, this includes 1498 firm-years with 369 firm-years reporting goodwill impairment losses and 1129 firm-years reporting zero goodwill impairment from 2006/7 to 2008/9. Of the total companies which reported goodwill impairment losses within the three-year period, 19 companies (or 57 firm-years) reported the impairment losses repeatedly three times, 49 companies (or 98 firm-years) reported the impairment losses twice, and the remaining 214 companies reported the impairment losses once. The presence of the repeated impairers raises the question of whether it is appropriate to run a pooled regression of all the 1498 firm-years (in the case of this study - the tobit model). Ward and Leigh (1993: 646) argue that to run a single regression on the pooled observations with repeated observations lead to regression estimates that may be biased. They (p. 646) reason that this approach does not recognise that some observations are not independent. Consequently, they opine the test of significance may produce unreliable findings (Ward and Leigh, 1993: 646). In addition, by

pooling of time series and cross-sectional observations, there are implicit assumptions that the regression parameters (i.e. intercepts and slope coefficients) are constant over time and that these do not differ between numerous cross-sectional units (Gujarati, 1995: 524). Therefore, pooling of data does not allow heterogeneity across units (Baum, 2006: 220).

Two solutions to this problem of pooling time series and cross-sectional observations have been proposed by prior studies, namely, a fixed-effects model and a random-effects model (Ward and Leigh, 1993: 647; Gujarati and Sangeetha, 2007: 666). In the case of a limited dependent variable, the estimation techniques which are required to address the issue of pooled data are a fixed-effects tobit and a random-effects tobit (Honore et al., 2008: 394 and 399). The fixed-effects model relaxes the assumption that the regression parameters are constant over time and space (Baum, 2006: 221). It allows each cross-sectional unit to have its own intercept while the slope of the coefficients remains constant across companies (Baum, 2006: 221). Therefore, the fixed-effects model considers the individual-specific intercept as the fixed-effects of that unit (Baum, 2006: 222).

Similar to the fixed-effects model, the random-effects model also allows for heterogeneity across units (Baum, 2006: 219). However, unlike the fixed-effects model which allows individual heterogeneity (unobserved individual effects) to be correlated with the included variables (Greene, 2008: 200), the random-effects model specifies the individual heterogeneity as a random draw that is uncorrelated with all explanatory variables (Wooldridge, 2009: 485). Therefore, the random-effects model treats the individual heterogeneity as purely random across cross-sectional units. When the unobserved individual effects are not correlated with everything else in the model, the individual-level effects are parameterized as additional random disturbances (Baum, 2006: 220). Hence, in the random-effects model, the individual heterogeneity is captured in the composite-error term (a combination of the individual-level effect and the disturbance term) (Baum, 2006: 220 and 227).

As noted in Section 6.7.1, in the measurement study of this thesis, a pooled regression using the random-effects tobit will be employed. The random-effects model is selected instead of the fixed-effects model because according to Gujarati (2003: 642), to perform the fixed-effects model would require an inclusion of dummy variables for each of the observations (minus one to avoid the dummy trap). In the case of the measurement study of this thesis, the number of observation is large while the number of years to be analysed is small (i.e. maximum of three years). Thus, the application of the fixed-effects model would require a large number of dummy variables. Gujarati (2003: 646) explains that too many dummy variables may lead to loss of many degrees of freedom, and the possibility of multicollinearity. These problems may create difficulty in generating precise estimation of one or more parameters (Gujarati, 2003: 646). Hence, the fixed-effects model is not practical for pooled data with many cross-sectional observations (Wooldridge, 2009: 485). Therefore, using a random-effects tobit model, the measurement study of this thesis estimates the likelihood of reporting goodwill impairment and the extent (i.e. intensity) of goodwill impairment losses divided by prior year total assets reported.

See Section 8.3.1 for an overall regression model for the measurement study and Table 8.3 in Section 8.3.3 for the detailed model specifications.

6.8 Multivariate analysis to be carried out for the recognition study of goodwill impairment

The dependent variable for the recognition study is a dichotomous variable, equal to one when companies are considered as exercising a recognition choice related to reporting zero goodwill impairment, and zero otherwise (see Table 5.1). The binary nature of this dependent variable has led to the application of a binary logistic regression in the recognition study of this thesis. Logistic regression is a multiple regression with a dependent variable that is a categorical dichotomy and independent variables that are continuous or categorical (Field, 2005: 218). When the dependent variable is dichotomous, the assumption of linearity is normally violated (Field, 2005: 220). Thus, the Ordinary least squares (OLS) regression, which assumes that

the relationship between the dependent variable and the independent variables is linear, cannot be applied (Field, 2005: 220). Menard (1995: 6-7) argues that applying an OLS when the dependent variable is dichotomous may lead to the predicted values for the dependent variable being higher or lower than the possible values of zero and one (p. 6). This then resulted in the issue of heteroskedasticity (p. 7). Also, because the residuals are not normally distributed, the use of OLS may lead to invalid results of the hypothesis testing (Menard, 1995: 7).

According to Field (2005: 220), one solution to the non-linear relationship is to transform the data using logarithmic transformation. This is the principle that is applied in the logistic regression equation – it expresses the multiple linear regression equation in logarithmic terms (Field, 2005: 220). By doing so, the problem of violating the assumption of linearity is overcome (Field, 2005: 220). Therefore, using the logistic regression, the recognition study of this thesis models the probability of recognition choice related to reporting zero goodwill impairment by Malaysian listed companies which have their market values lower than the book values of net assets for three consecutive years.

See Figure 9.4 in Section 9.3 for the detailed regression model of the recognition study related to reporting zero goodwill impairment.

6.9 Goodness-of-fit of the regression models to be conducted on the measurement and recognition studies

A goodness-of-fit measure is a statistical summary which indicates the accuracy with which a regression model approximates the observed data (Maddala, 1996: 37). In the case of the measurement study of this thesis, the overall goodness-of-fit of the random effects tobit model is assessed using the log-likelihood and the overall Wald test (Baltagi, 2008: 345; Cameron and Trivedi, 2009: 390). When the value of Wald is large and statistically significant (p-value less than 0.05), the regression model constructed is considered better than the null model (i.e. when all of the independent

variables and control variables are omitted) (Cameron and Trivedi, 2009: 390-391).

For the recognition study, the overall goodness-of-fit of the logistic regression model is assessed using -2 Log Likelihood, Hosmer-Lemeshow statistic, Cox and Snell's R Square and Nagelkerke R Square. The -2 Log Likelihood (commonly abbreviated as -2LL) evaluates the lack of fit of the logistic model, which is based on the variation unexplained by the logistic regression model (Menard, 2002: 21). The -2LL is analogous to the error sum of squares in linear regression (Menard, 2002: 21). Larger values of -2LL indicates a significant lack of fit for the logistic model (Menard, 2002: 21). Meanwhile, the Hosmer-Lemeshow goodness-of-fit tests the null hypothesis that the model provides a good fit to the data (Cary, 1995: 72). When the p-value of the Hosmer-Lemeshow statistic is greater than 0.05, the null hypothesis cannot be rejected, suggesting that the logistic regression model fits the data well (Menard, 2010: 58). In addition, the Cox and Snell's R Square is based on the log likelihood for the model compared to the log likelihood for a baseline model, while the Nagelkerke R Square is an adjusted version of the Cox and Snell R-square, that is an adjusted coefficient to cover the full range from zero to one (Cary, 1995: 68).

6.10 Summary

This chapter has discussed the procedures involved in validating the Datastream source data. It has also outlined the research design and research methods required for the empirical chapters on disclosure, measurement, and recognition studies of goodwill impairment.

Chapter 7: Disclosure Study of Goodwill Impairment - Results and Analysis

7.1 Introduction

The overall aim of this chapter is to explore, via the annual reports of companies, types of accounting choice related to goodwill impairment exercised by Malaysian listed companies after the implementation of FRS 3 (see Section 1.3). This disclosure study is intended to gain more insight into the degree of discretion managers of Malaysian listed companies have in reporting goodwill impairment after the implementation of FRS 3.

To accomplish this aim, the disclosure study is organised into two parts. The first part of the disclosure study aims to examine the appropriateness of the market capitalisation indication (i.e. companies' market values lower than the book values of their net assets at the balance sheet date) as an indication that goodwill may be impaired (see Section 7.2). Following from the findings in the first part, the second part of the disclosure study aims to identify types of accounting choice related to goodwill impairment exercised by Malaysian listed companies after the implementation of FRS 3 (see Section 7.3).

Section 7.2 reports the findings and analysis of the first part; Section 7.3 discusses the results and analysis of the second part of the disclosure study. Section 7.4 summarises and concludes the chapter.

7.2 Part one of the disclosure study: The appropriateness of the market capitalisation indication

The first part of the disclosure study addresses the following research question (see Section 1.3):

Research Question 2:

To what extent is the market capitalisation indication (i.e. companies' market values lower than the book values of their net assets at the balance sheet date) an appropriate proxy for an indication that goodwill may be impaired?

The appropriateness of the market capitalisation indication as a proxy for an indication that goodwill may be impaired (see Section 4.3 for detail) is examined by comparing two types of information which represent the observed practice vs. the stated explanation. The data compared are: (i) the market capitalisation indication of companies (i.e. where market values are lower than the book values of net assets at the balance sheet date), which is obtained from Datastream, and (ii) reasons for companies reporting goodwill impairment (both zero, and goodwill impairment losses) disclosed in the Notes to the Financial Statement (see Section 6.5.1.2). The comparison of these two types of information leads to observation of three groups as follow:

- Group 1 – Companies with poor disclosure, as they do not provide reasons for reporting goodwill impairment in the Notes to the Financial Statement.
- Group 2 – Companies whose market capitalisation indications conflict with their stated reasons for reporting goodwill impairment as disclosed in the Notes to the Financial Statement.
- Group 3 – Companies whose market capitalisation indications reflect their stated reasons for reporting goodwill impairment as disclosed in the Notes to the Financial Statement.

The first part of the disclosure study is carried out in two ways. Firstly, the analysis is performed across companies within one year of their implementing FRS 3. This covers 294 companies with financial year ended December 2006 and a further 235 companies with financial years ended between January and November 2007 (see Table 7.1). Secondly, the analysis is conducted on a subset of companies over a period of two years. This covers 258 companies with data available for the financial years ended December 2006 and December 2007 (see Table 7.2) (see Section 6.5.1.1 for detailed discussion).

The first comparison provides the potential to identify a learning aspect within the first year of operation. It is possible that those reporting later in the first year learn from those reporting in the initial stage. The second comparison helps to assess the relative disclosure of goodwill impairment over time.

Table 7.1: The first part of the disclosure study conducted across companies within one year of implementing FRS 3

	No. of companies											
	December-2006						Between January and November 2007					
	All		GWIL(IL) [1]		GWIL(0)		All		GWIL(IL)		GWIL(0)	
Panel A												
No Annual reports	12	4%	3	4%	9	4%	11	5%	4	7%	7	4%
Reason for reporting goodwill impairment not disclosed (Group 1)	93	32%	21	27%	72	33%	68	29%	20	34%	48	27%
Reason for reporting goodwill impairment disclosed (Groups 2 and 3)	189	64%	53	69%	136	63%	156	66%	34	59%	122	69%
Total	**294**		**77**		**217**		**235**		**58**		**177**	
Panel B: Reasons Disclosed												
No conflict between the market capitalisation indication and Notes to the Financial Statement (Group 3)	84	44%	33	62%	51	37%	83	53%	21	62%	62	51%
Conflict between the market capitalisation Indication and Notes to the Financial Statement (Group 2)	105	56%	20	38%	85	63%	73	47%	13	38%	60	49%
Total	**189**		**53**		**136**		**156**		**34**		**122**	

[1] GWIL(IL) denotes reporting goodwill impairment loss; GWIL(0) denotes reporting zero goodwill impairment.

Table 7.2: The first part of the disclosure study conducted on a subset of companies over a period of two years implementing FRS 3

	No. of companies											
	December-2006						December-2007					
	All		GWIL(IL) [1]		GWIL(0)		All		GWIL(IL)		GWIL(0)	
Panel A												
No Annual reports	10	4%	2	4%	8	4%	3	1%	0	0%	3	2%
Reason for reporting goodwill impairment not disclosed (Group 1)	78	30%	6	12%	72	35%	49	19%	9	15%	40	20%
Reason for reporting goodwill impairment disclosed (Groups 2 and 3)	170	66%	43	84%	127	61%	206	80%	52	85%	154	78%
Total	**258**		**51**		**207**		**258**		**61**		**197**	
Panel B: Reasons Disclosed												
No conflict between the market capitalisation indication and Notes to the Financial Statement (Group 3)	77	45%	28	65%	49	39%	93	45%	26	50%	67	44%
Conflict between the market capitalisation indication and Notes to the Financial Statement (Group 2)	93	55%	15	35%	78	61%	113	55%	26	50%	87	56%
Total	**170**		**43**		**127**		**206**		**52**		**154**	

[1] GWIL(IL) denotes reporting goodwill impairment loss; GWIL(0) denotes reporting zero goodwill impairment.

From Table 7.1 (panel A), it is observed that of the 294 total number of companies with financial year ended December 2006, 4% of the companies (12 companies) do not provide annual reports. A closely similar situation is found for companies with financial years ended between January and November 2007, whereby 5% of the companies (11 companies) have no annual reports uploaded on the website of the Bursa Malaysia, or their own websites. These companies are excluded from the analysis.

Table 7.1 (panel A) shows that out of the total number of companies with financial year ended December 2006 (i.e. 294 companies), 32% (93 companies) do not disclose their reasons for reporting either zero goodwill impairment or goodwill impairment losses (companies in Group 1). For companies having financial years ended between January and November 2007, the percentage of companies falling into Group 1 is slightly lower (i.e. 29% or 68 companies) than those companies having a December 2006 financial year-end. Table 7.2 (panel A) shows that the lack of disclosure reduces over time as the proportion of companies which fall into Group 1 (i.e. poor disclosure) decreases from 30% (in 2006) to 19% (in 2007). Perhaps, this reflects increased understanding of the standard.

Groups 2 and 3 comprise those companies who disclosed their reasons for reporting goodwill impairment in the Notes to the Financial Statement. For Group 2, their disclosed reasons conflicted with the companies' market capitalisation indication[48]. For companies with financial year ended December 2006, of the 189 companies that disclosed their reasons for reporting goodwill impairment, 56% of the companies fall into Group 2 (see Panel B of Table7.1). For companies with financial years ended between January and November 2007, the percentage of companies that fall into Group 2 is slightly lower (47%) than the companies with the December year-end. The comparison of companies in Group 2 over a period of two years shows similar result, in that in both of the financial years ended December 2006 and 2007, 55% of companies fall into Group 2 (see Panel B in Table 7.2).

[48] For example, see Table 7.6(a) in Section 7.3.2.

For Group 3, companies' reasons for reporting goodwill impairment disclosed in the Notes to the Financial Statement coincide with their market capitalisation indication. Table 7.1 (panel B) shows that of the 189 companies with financial year ended December 2006, 44% of the companies are classified into Group 3. This proportion is slightly increase (53%) for companies with financial years ended between January and November 2007. The comparison of the proportion of total companies in Group 3 over time shows that similar result (45%) is observed in both of the financial years ended December 2006 and 2007 (see Panel B in Table 7.2).

The findings that nearly equal proportions of companies are classified into Groups 2 and 3 suggest that the companies' market capitalisation indication is an appropriate proxy for goodwill impairment for approximately half of the companies that disclosed their reasons; it is not an appropriate proxy for the remaining half of the companies. Assuming that the disclosed reasons reflect the true and fair view of the companies' goodwill reported on the balance sheet as they have been audited, the findings for Groups 2 and 3 imply that companies' market capitalisation indication is not an ideal proxy for an indication that goodwill may be impaired. This is because for approximately half of the companies that disclosed their reasons (i.e. companies in Group 2), their market capitalisation indication does not fully reflect the condition of the cash-generating-units containing goodwill, disclosed in the Notes to the Financial Statement. Because market capitalisation indication is not an ideal measure, this finding suggests that to identify types of accounting choice related to goodwill impairment, further information, in addition to the market capitalisation indication, is needed, such as companies' financial performances and segment results containing goodwill.

7.3 Part two of the disclosure study: Types of accounting choice related to goodwill impairment

Part two of the disclosure study addresses the following research question (see Section 1.3):

Research Question 3:

> What are the types of accounting choice related to goodwill impairment exercised by Malaysian listed companies which can be identified through detailed analysis of annual reports?

This research question is addressed by selecting 20 companies from Group 2 (companies where their disclosed reasons conflicted with the market capitalisation indication) and reported goodwill impairment losses (see Section 6.5.2.1). Altogether, there are 59 companies which reported goodwill impairment losses and are classified into Group 2 (i.e. 20 companies with financial years ended December 2006, 13 companies with financial years ended between January and November 2007 - see panel B of Tables 7.1, and 26 companies with financial years ended December 2007 – see panel B of Table 7.2). Thus, the 20 companies selected represent one-third of all of the companies which reported goodwill impairment losses and are classified into Group 2.

These 20 companies comprise seven companies with financial years ended December 2006, seven companies with financial years ended between January and November 2007, and six companies with financial years ended December 2007. The 20 companies selected not only fall into Group 2 and have reported goodwill impairment losses; they also have annual reports available throughout the period of investigation. These criteria are imposed because in order to identify the types of accounting choice related to goodwill impairment exercised, the researcher has to trace the goodwill impairment losses back from the write-off year to the acquisition year (i.e. the year the goodwill was acquired). Consequently, the number of years analysed varies for each of the companies. As an illustration, the analysis of goodwill movement for ABC3[49] Bhd stretches over six years from 2003 to 2008 (see Table 7.5 in Section 7.3.1) whereas for DEF1 Bhd, it is spread over two years from 2007 to 2008 (see Table 7.6(a) in Section 7.3.2).

[49] In this thesis, the name of companies are anonymised because of the critical comments made about them, which could be price sensitive if quoted out of context of the thesis.

To identify types of accounting choice related to goodwill impairment, a disclosure framework is constructed and is applied for the 20 companies (see Section 6.5.2.2). The framework includes six key items of data: (i) goodwill data, (ii) segment result, (iii) financial performance, (iv) the market capitalisation indication, (v) reasons for reporting goodwill impairment loss disclosed in the Notes to the Financial Statement, and (vi) the audit report concerning goodwill (e.g. see Table 7.3 for an analysis of goodwill movement for ABC1 Bhd). The analysis of the six key items of data resulted in three types of accounting choice related to goodwill impairment identified (see Figure 7.1). These are: delayed reporting goodwill impairment losses (see Section 7.3.1); timing in reporting goodwill write-off from goodwill which arose from an apparent overpayment made at the time of business acquisition (see Section 7.3.2); and systematic reduction of goodwill balance (see Section 7.3.3).

Figure 7.1: Types of accounting choice related to goodwill impairment identified through detailed analysis of annual reports of 20 companies

Description	No. of companies	%
Delayed reporting goodwill impairment losses	4	20
Timing in reporting goodwill write-off from goodwill which arose from an apparent overpayment made at the time of business acquisition	8	40
Systematic reduction of goodwill balance	2	10
Cannot identify[50] companies' reasons for reporting goodwill impairment losses	6	30
Total	**20**	**100**

[50] Reasons for reporting goodwill impairment losses in six companies cannot be identified even after analysing the annual reports covering several years. This is because for these companies, the detailed breakdown of their business acquisition is not clearly disclosed in the annual reports, in the sense that the total goodwill that arose from the acquisitions does not tally with the amount of goodwill balance. As a result, the researcher is unable to identify reasons for reporting goodwill impairment losses for these six companies.

7.3.1 Delayed reporting goodwill impairment losses

Of the 20 companies analysed, four companies are found to delay reporting goodwill impairment losses (see Figure 7.1). These companies are ABC1 Bhd, ABC2 Bhd, ABC3 Bhd, and ABC4 Bhd. In this thesis, delay in reporting goodwill impairment losses is said to occur when all three conditions are met: the company's market value is lower than the book values of the net assets, the segment to which goodwill is allocated has experienced a loss, and the company's financial performance [measure as net income available to equity holders (after adding back goodwill impairment losses)] is lower than that of previous year. Yet in all the three conditions, managers do not report goodwill impairment losses immediately in the income statement.

Of the four companies which were identified as delaying in reporting goodwill impairment losses, three companies (i.e. ABC1 Bhd, ABC2 Bhd, and ABC3 Bhd) will be discussed in this section. This is because each of these companies illustrate additional issues for companies that delayed reporting goodwill impairment losses. ABC4 Bhd is not discussed as its case is similar to that of ABC1 Bhd. Tables 7.3 to 7.5 present the analyses of goodwill movement for these three companies.

Table 7.3: Analysis of goodwill movement for ABC1 Bhd from 31 December 2003-2007

	Pre-FRS 3			Post-FRS 3	
Year	**2003**	**2004**	**2005**	**2006**	**2007**
1. Goodwill data					
(a) Opening goodwill balance	-	587,872	587,872	**589,889**[51]	393,950
(b) Additions	587,872	-	109,196	**-**	-
(c) Miscellaneous	-	-	-	**-**	-
(d)Goodwill impairment losses	-	-	(109,196)[52]	**(195,939)**	(393,950)

[51] The company has restated its opening goodwill balance in 2006 from RM587,872 to RM589,889 without any information on the difference of RM2,017 disclosed in the Notes to the Financial Statement.

[52] Goodwill impairment loss of RM109,196 is because of a subsidiary acquired [see item 1(b)], which created goodwill upon acquisition (Annual report, 2005: 62). Thus, this is a case of goodwill written-off immediately upon acquisition; it is not an impairment of goodwill which was acquired in 2003 [see item 1(b)] and not a case of delay in reporting goodwill write-off.

(e) Disposed	-	-	-	**-**	-
	2003	**2004**	**2005**	**2006**	**2007**
(f) Closing goodwill balance	587,872	587,872	587,872	**393,950**	-
(g) Allocation of goodwill to CGUs	Not stated				Electrical and mechanical engineering
(h) Basis of recoverable amount	Not stated				Value in use
(i) Accounting policy -Goodwill	Purchased goodwill is stated at cost and not amortise			Annual impairment test of goodwill	
2. Segment result					
(a) Number of segments	3	3	3	**3**	3
(b)Segment result of an impaired goodwill (CGU – **Elect. and Mechanical engineering)**	4,505,161	4,098,834	(16,222,151)	(14,152,837)	408,468
3. Financial performance					
(a) Net income (after adding back goodwill impairment loss) available to equity holders	11,220,000	(1,524,000)	(38,574,000)	(20,577,000)	4,013,000
(b) Basic EPS (cents)	70.12	(2.93)	(74.39)	**(38.89)**	5.01
4. The Market capitalisation (MV[1] vs. BV)	MV>BV 2.05	MV<BV 0.80	MV<BV 0.81	**MV>BV** **2.28**	MV>BV 2.17
5. Reasons for reporting goodwill impairment losses disclosed in the Notes to the Financial Statement	2006 • Reason for reporting goodwill impairment loss was not disclosed (see ABC1 Bhd, 2006: 43). 2007 • Goodwill is allocated to the Group's electrical and mechanical engineering division. The recoverable amount of the goodwill was based on its value in use, which was determined by discounting the future cash flows generated from the continuing use of the unit (ABC1 Bhd, 2007: 48).				
6. Audit report concerning goodwill	2006 and 2007 • Unqualified opinion (ABC1 Bhd, 2006: 24; 2007: 28).				
Types of accounting choice identified	2006 and 2007 • This is the case of delayed reporting goodwill impairment losses.				

[1] MV denotes companies' market values ; BV denotes book values of the net assets of companies

Table 7.3 shows that ABC1 Bhd acquired goodwill in 2003 amounted to RM587,872 [see item 1(b)]. In 2004, the company's financial performance declines (see item 3) with its net income available to common equity holders (pre-goodwill impairment loss) reduces to negative RM1,524,000 and its basic EPS falls to negative 2.93 cents. Likewise, the company's market values fall below the book values of the net assets (see item 4). In 2005, at the end of the third year of acquiring the goodwill, the decline in the company's financial performance and its market value affected the segment reporting containing goodwill (i.e. Electrical and mechanical engineering) [see item 2(b)].

Seeing that segment result is performing poorly with company's financial performance deteriorates, and the company's market value falling below the book value of the net assets for two consecutive years (2004 and 2005), it would be expected that the company would report a goodwill impairment loss in 2005. Nonetheless, goodwill which was acquired in 2003 was not impaired in 2005. Instead, it was impaired partly (33%) in 2006 and partly (67%) in 2007 [see item 1(d)]. In these two years, the company's market values were higher than the book values of the net assets and its financial performance was better than the previous year. When the company reported a goodwill impairment loss in 2006, its reason for reporting such a loss was not disclosed in the Notes to the Financial Statement (see item 5). In 2007, although the company disclosed its reason for the impairment loss (see item 5), the disclosure lacked content, in the sense that there was no specific reason for the impairment loss. The audit reports in 2006 and 2007 provided clean opinions regarding the company's goodwill (see item 6).

From the analysis of goodwill movement from 2003 to 2007, presented in Table 7.3, it appears that managers of ABC1 Bhd waited until the company's performance was getting better than the previous year before reporting goodwill impairment losses. Thus, the impairment losses reported by ABC1 Bhd in 2006 and 2007 are considered as delay in reporting goodwill impairment.

Table 7.4 shows another case of a company, ABC2 Bhd that delayed reporting goodwill impairment losses. This company acquired goodwill in 2003, yet in 2005, its segment reporting [see item 2(b)] and financial performances [see item 3(a)] reported negative results. Similarly, the company's market value fell below the book values of the net assets (see item 4). The company's poor performances imply that it should have reported goodwill impairment loss in 2005. Yet, the amount of impairment loss reported was relatively small [i.e. RM46,000 in 2005 compared to RM623,00 in 2007 - see item 1(d)]. The company reported a larger amount of goodwill impairment loss in 2007 [see item 1(d)] when its market value rose above the book value of the net assets (see item 4) and its financial performance was better than that of the previous year (see item 3). In 2007, when the company reported goodwill impairment loss, the reason disclosed in the Notes to the Financial Statement was that the impairment loss was based on the management assessment of the future trends in the semiconductor division (see item 5). If the decision to report goodwill impairment loss was based on the future trend of the semiconductor division, no impairment should have been reported in 2007 as the segment result for the division showed a positive amount both in 2007 and 2008 [see item 2(b)]. Item 6 shows that in 2007, the audit report provided clean opinions regarding company's goodwill. Therefore, it is deduced that the reporting of goodwill impairment loss by ABC2 Bhd in 2007 may be regarded as delay in reporting goodwill impairment loss in 2005.

Table 7.4: Analysis of goodwill movement for ABC2 Bhd from 31 December 2003-2008

	Pre-FRS 3 (RM'000)			Post-FRS 3 (RM'000)		
Year	2003	2004	2005	2006	2007	2008
1. Goodwill data						
(a)Opening goodwill balance	-	63,916	5,755	5,709	**5,709**	5,088
(b) Additions	63,916	-	-	-	**2**	-
(c) Miscellaneous - Dilution of equity interest in subsidiaries	-	(49,218)	-	-	**-**	-
(d) Goodwill impairment losses	-	(8,943)	(46)	-	**(623)**	-
(e) Disposed	-	-	-	-	**-**	(762)
(f) Closing goodwill balance	63,916	5,755	5,709	5,709	**5,088**	4,326

(g) Allocation of goodwill to CGUs	Not stated			Substantially to semiconductor division		
(h) Basis of recoverable amount	Not stated			VIU based on **semiconductor**'s projected results and cash flows		
(i) Accounting policy - Goodwill	Goodwill is taken up in the balance sheet as a permanent item		Goodwill is tested annually for impairment	Goodwill is reviewed for impairment annually or more frequently		
	2003	**2004**	**2005**	**2006**	**2007**	**2008**
2. Segment result						
(a) Number of segments	7	6	4	4	**4**	5
(b) Segment result of an impaired goodwill - **Semiconductor division**	(10,388)	82	(14,960)	3,956	**11,476**	7,336
3. Financial performance						
(a) Net income (after adding back goodwill impairment loss) available to equity holders	(11,207)	(9,029)	(41,519)	(60,752)	**(3,608)**	(1,392)
(b) Basic EPS (cents)	(16.47)	(17.00)	(40)	(58)	**(5)**	0.9
4. The market capitalisation (MV vs. BV)	MV>BV 1.58	MV>BV 1.03	MV<BV 0.94	MV>BV 1.04	**MV>BV** 1.24	MV<BV 0.77
5. Reasons for reporting goodwill impairment losses disclosed in the Notes to the Financial Statement	**2007:** Goodwill is substantially allocated to the business of the semiconductor division. Goodwill impairment test was based on value in use and was determined by the management by assessing the semiconductor division's budget. The values assigned to the key assumptions used in preparing the budget represent management's assessment of future trends in the semiconductor division and are based on internal sources (historical data)(ABC2 Bhd, 2007: 50).					
6. Audit report concerning goodwill	**2007**: Unqualified opinion (ABC2 Bhd, 2007:29).					
Types of accounting choice identified	**2007** Delayed reporting goodwill impairment loss					

ABC2 Bhd brings in an additional case for companies that delayed reporting goodwill impairment losses. Table 7.4 shows that in 2006, the company's market value is higher than the book value of the net assets (see item 4). As discussed in ABC1 Bhd, when the company's market value is above the book value of the net assets, this is when the company reported goodwill impairment loss that has become overdue. However, for ABC2 Bhd, there was no goodwill impairment loss reported. There are two possible reasons for the managers not to report goodwill impairment loss in 2006. Firstly, the

managers might perceived the increment in the market value above the book value of the net asset to be small (i.e. the market value rises from 0.94 to 1.04 – see item 4). Secondly, the company's financial performance was still not improving compared to its previous year (see item 3). The loss was worse than that of the previous year. Hence, Table 7.4 illustrates that in deciding when to report goodwill impairment loss that has become overdue, the managers would wait for the increment in the market values above the book values to be large, and for the company's financial performance to be better than the previous year.

ABC3 Bhd is the third case of a company that delayed reporting goodwill impairment loss. Table 7.5 shows that the company acquired goodwill amounting to RM40,876 in 2004 [see item1(b)]. At the end of the year, the segment to which the goodwill is allocated reported a negative result [see item 2(b)]. Likewise, the company's market value fell below the book value of the net asset (see item 4). The company's performance deteriorated in 2006 (see item 3). Within 2005 to 2006, ABC3 Bhd might have been expected to report goodwill impairment losses, yet none were reported. In 2007, the company's market value was greater than the book value of the net assets and its financial performance improved compared to the previous year; in this year, the company reported goodwill impairment loss amounting to RM13,000,000 [see item 1(d)]. Again, in 2008, the same amount of goodwill impairment loss was reported.

When the company reported goodwill impairment losses in 2007 and 2008, the reason disclosed in the Notes to the Financial Statement (see item 5) was that the impairment loss was based on the assessment of future trends in the bio-healthcare industry (i.e. the CGU containing goodwill). If this is the case, the company should have reported goodwill impairment loss from 2005 to 2006 as the CGU was not performing in these years. Thus, ABC3 Bhd illustrates a company delaying in reporting goodwill impairment losses. What is interesting for ABC3 Bhd is that in 2008, the company disclosed the sensitivity analysis (see item 5 for year 2008) stating that if the discount rates were to increase by 2% or the future planned revenues were to reduce by 2%, an additional goodwill impairment loss of RM14,876,000 would be recognised. It appears

that the company plan to fully impair its goodwill in the next year (i.e. 2009) because by recognising goodwill impairment loss amounted to RM14,876,000, the goodwill balance becomes nil [see item 1(f)]. ABC3 Bhd is added as part of the discussion in this thesis because this company demonstrates that the goodwill impairment losses reported were small and too late. On 7/5/2009, the company was de-listed by Bursa Malaysia pursuant to Paragraph 8.15(6) of the Listing Requirements (compliance with the shareholding spread requirement due to take-over offer) (Bursa Malaysia, 2009[53]). The case of delay in reporting goodwill impairment losses for ABC3 Bhd has not captured the external auditor's attention, as in the audit report for 2007 and 2008, the auditors provided clean opinions regarding the company's goodwill (see item 6).

Table 7.5: Analysis of goodwill movement for ABC3 Bhd from 31 December 2003-2008

	Pre-FRS 3 (RM'000)			Post-FRS 3 (RM'000)		
Year	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**
1. Goodwill data						
(a) Opening goodwill balance	400	402	40,876	40,876	**40,876**	27,876
(b) Additions	2	40,876	-	-	**-**	-
(c) Miscellaneous - Dilution of equity interest in subsidiaries	-	-	-	-	**-**	-
(d) Goodwill impairment losses	-	(402)	-	-	**(13,000)**	(13,000)
(e) Disposed	-	-	-	-	**-**	-
(f) Closing goodwill balance	402	40,876	40,876	40,876	**27,876**	14,876
(g) Allocation of goodwill to CGUs	Not stated			Not stated	**Bio-healthcare**	
(h) Basis of recoverable amount	Not stated				**VIU**	VIU
(i) Accounting policy – Goodwill	Goodwill amortisation	Impairment only approach		Annual impairment review		
2. Segment result						
(a) Number of segments	8	8	8	8	**8**	8
(b) Segment result of an impaired goodwill (CGU-**Bio-healthcare**)	-	(1,381)	(3,462)	(6,214)	**(6,027)**	(5,364)
3. Financial performance						
(a) Net income (after adding back goodwill	5,807	18,293	4,962	(41,642)	**(19,422)**	15,835

[53] Bursa Malaysia (2009), retrieved on November 5, 2011 from http://www.thgroup.com.my/News/070509.html

impairment loss) available to equity holders						
	2003	**2004**	**2005**	**2006**	**2007**	**2008**
(b) Basic EPS (cents)	1.63	4.83	1.28	(10.93)	**(8.39)**	0.73
4. The market capitalisation (MV vs. BV)	MV>BV 1.22	MV<BV 0.83	MV<BV 0.63	MV<BV 0.79	**MV>BV 1.26**	MV>BV 1.04
5. Reasons for reporting goodwill impairment losses disclosed in the Notes to the Financial Statement	2007 • Goodwill is allocated to the bio-healthcare division. • The impairment test was based on its value-in-use. The value-in-use calculation applies a discounted cash flow model using the bio-healthcare division's pre-tax cash flow projections based on financial forecasts covering a five-year period. • The values assigned to the key assumptions represent the Group's assessment of future trends in the bio-healthcare industry and are based on both external sources and internal sources (historical data) (ABC3 Bhd, 2007: 73). 2008 • Company's reasons for reporting goodwill impairment loss is quite similar to the Notes to the Financial Statement as stated in 2007. Additional information concerning the sensitivity of the estimation made is disclosed as follows: 'The estimates are particularly sensitive in respect of the following:- 1. An increase of 2 per cent point in the discount rate used would have rendered an impairment loss of RM14,876,000. 2. A 2 per cent decrease in future planned revenues would have rendered an impairment loss of RM14,876,000 (ABC3 Bhd, 2008: 59)'.					
6. Audit report concerning goodwill	Unqualified opinion both in 2007 and 2008 (ABC3 Bhd, 2007: 43; 2008: 12-13).					
Types of accounting choice identified	**2007 and 2008** Delayed reporting goodwill impairment loss					

All of the three companies discussed in this section (i.e. ABC1 Bhd, ABC2 Bhd, and ABC3 Bhd) provide evidence of companies which delayed reporting goodwill impairment losses. Such delayed reflect the exercise of managerial discretion in terms of timing their reporting of impairment losses. This finding is consistent with Hayn and Hughes (2006: 226), who find that goodwill write-off of 1,276 acquisitions by US listed companies from 1988-1998, lag behind the economic impairment of goodwill. However, in their study, the lag is between three to four years. Hilton and O'Brien (2009: 180) opine that one of

the reasons for companies to inflate the asset values (by not reporting the impairment losses when they are due) is because of the desire to create an 'illusion of financial strength'. Perhaps, this is also what drives the three companies discussed in this section to delay in reporting goodwill impairment losses.

Following analysis of the three companies, discussed above, a scenario which captures the accounting choice of delay in reporting goodwill impairment loss is constructed (see Figure 7.2).

Figure 7.2: A scenario of companies that delayed reporting goodwill impairment losses

- Selection criteria:
  (i) In years 1 and 2 of the implementation of FRS 3, companies that have their market values lower than the book values of their net assets, their change in net income available to equity holders (pre goodwill impairment losses) from prior year to current year is negative, and they reported zero goodwill impairment.
  (ii) In year 3, these companies have their market values greater than the book values of their net assets, positive change in net income available to equity holders (pre goodwill impairment losses) from the prior year to current year, and they reported goodwill impairment losses.
- These companies will be regarded as companies that delayed reporting goodwill impairment losses. For the future study, these companies shall be tested in year 3 against a control group of companies which also have their market values greater than the book values of their net assets, and a positive change in net income available to equity holders (pre-goodwill impairment losses) from prior year to current year. However, this control group of companies reported zero goodwill impairment.

As noted in Figure 7.2, Year 2 is included in the scenario in order to ensure that the decline in the financial performance of companies is not temporary, and to demonstrate that the managers waited for more than a year (i.e. years 1 and 2) before reporting goodwill impairment losses in the third year.

However, because only a small number of companies fulfilled the selection criteria shown in Figure 7.2, this scenario is set aside for future study since the number of companies which implement FRS 3 will increase with the expansion of years of analysis.

7.3.2 Timing in reporting goodwill write-off from goodwill which arose from an apparent overpayment made at the time of business acquisition

Figure 7.1 (in Section 7.3) shows that of the 20 companies analysed, eight companies were found to report goodwill impairment losses because of the goodwill which arose from an apparent overpayment made at the time of business acquisition. Hayn and Hughes (2006: 234) explained that 'overpayment is more likely, the higher the proportion of the acquisition price assigned to goodwill'. Therefore, in this thesis, an apparent overpayment is identified based on the significant amount of goodwill relative to the acquisition price. In their study, Hayn and Hughes (2006: 241) found that for the US listed companies that they examined, their goodwill balance, on average, represented 58% of the acquisition price.

Of the eight companies that reported goodwill impairment losses as a result of the apparent overpayment, only three of them will be discussed in this section (see Tables 7.6 to 7.8). These three companies (i.e. DEF1 Bhd, DEF2 Bhd, and DEF3 Bhd) are selected to demonstrate three different timings in reporting goodwill impairment losses arising from the apparent overpayment. From Tables 7.6(b), 7.7(b) and 7.8(b) (see item 1), it is observed that for each of the three companies, goodwill represents more than 65% of the acquisition price.

Hayn and Hughes (2006: 233) consider overpayment by the acquiring company as one of the characteristics of business acquisition that is associated with goodwill impairment. Therefore, in the context of goodwill impairment, the apparent overpayment itself is not an accounting choice. The accounting choices related to goodwill impairment emerges when the managers decided

to fully impair the goodwill (i.e. the timing in reporting the impairment losses). To illustrate, all of the three companies shown in Tables 7.6 to 7.8 have a significant amount of goodwill relative to acquisition price, and all of them appear to plan to get rid of the apparent overpayment by reporting goodwill impairment losses as soon as possible. DEF1 Bhd fully impaired the goodwill immediately in the year of acquisition [see Table 7.6(a), item 1(b) and (d)], DEF2 Bhd fully impaired the goodwill in the year subsequent to acquisition [see Table 7.7(a), item 1(c) and 1(d) in 2007], and DEF3 Bhd impaired the goodwill partially within a period of two years [see Table 7.8(a), item 1(b) and (d)]. 57% of the goodwill was impaired in the year of acquisition and the remaining 43% of the goodwill was impaired in the subsequent year [see Table 7.8(b)].

Table 7.6(a): Analysis of goodwill movement for DEF1 Bhd from 31 December 2007-2008

	Post-FRS 3	
Year	**2007**	**2008**
1. Goodwill data		
(a) Opening goodwill balance	1,045,850	1,045,850
(b) Additions	1,635,192	7,705,039
(c) Miscellaneous - Dilution of equity interest in subsidiaries		-
(d) Goodwill impairment losses	(1,635,192) (see **Table 7.6b**)	(603,788)
(e) Disposed		-
(f) Closing goodwill balance	1,045,850	8,147,101
(g) Allocation of goodwill to CGUs	(i) Manpower consultancy, and (ii) Rig services.	(i) Manpower consultancy, (ii) Rig services, and (iii) Trading, maint.
(h) Basis of recoverable amount	Value in use	
(i) Accounting policy – Goodwill	Annual impairment review	
2. Segment result		
(a) Number of segments	6	7
(b) Segment result of an impaired goodwill	-	-
3. Financial performance		
(a) Net income (after adding back goodwill impairment loss) available to equity holders	29,667,000	31,103,000
(b) Basic EPS (cents)	48.63	4.89
4. The market capitalisation (MV vs. BV)	MV>BV 2.47	MV<BV 0.71
5. Reasons for reporting goodwill impairment losses disclosed in the	**2007** - The Group recognised goodwill	

Notes to the Financial Statement	impairment loss of RM1,635,192 during the financial year based on the discounted cash flows in arriving at the value in use (DEF1 Bhd, 2007: 97-98).
6. Audit report concerning goodwill	Unqualified opinion (DEF1 Bhd, 2007:44).
Types of accounting choice identified	Timing in reporting goodwill write-off from goodwill which arose from an apparent overpayment made at the time of the business acquisition [see **Table 7.6(b)**].

Table 7.6(b): Detail analysis of an addition of goodwill for DEF1 Bhd - 31 December 2007

Date		RM	%
2007	Addition:		
	Group's share of net assets	91,464	5%
Item 1	**Goodwill arising from acquisition**	**1,635,192**	**95%**
	Cost of acquisition	1,726,656	
31/12/2007	Goodwill impairment	1,635,192	Fully impaired

Table 7.7(a): Analysis of goodwill movement for DEF2 Bhd from 31 December 2006-2007

	Post-FRS 3	
Year	**2006**	**2007**
1. Goodwill data		
(a) Opening goodwill balance	3,524,072	2,808,856
(b) Additions	160,809	-
(c) Miscellaneous-Foreign exch. difference	-	(443) **See Table 7.7(b)**
(d) Goodwill impairment losses	-	(160,366) **See Table 7.7(b)**
(e) Disposed	(876,025)	-
(f) Closing goodwill balance	2,808,856	2,648,047
(g) Allocation of goodwill to CGUs	Singapore segment	
(h) Basis of recoverable amount	Value in use	
(i) Accounting policy - Goodwill	Goodwill impairment	
2. Segment result of an impaired CGU		
(a) Number of segments	Four CGUs – Malaysia, Singapore, Philippines, and others	
(b) Segment result – **Singapore segment**	2,347,104	3,964,037
3. Financial performance		
(a) Net income (after adding back goodwill impairment loss) available to equity holders	21,709,000	29,046,000
(b) Basic EPS (cents)	10.73	9.44
4. The market capitalisation (MV vs. BV)	MV>BV 5.97	MV>BV 6.24

5. Reasons for reporting goodwill impairment losses disclosed in the Notes to the Financial Statement	**2007** • For the purpose of impairment testing, goodwill is allocated to the Group's geographical segments. The recoverable amount of each CGU has been determined based on its value-in-use by discounting future cash flows generated from the CGUs. . The values assigned to the key assumption represent management's assessment of future trends in the Company's and the CGU's principal activities and are based on internal sources (historical data) (DEF2 Bhd, 2007: 51).
6. Audit report concerning goodwill	**2007** - Unqualified opinion (DEF2 Bhd, 2007: 31).
Types of accounting choice identified	**2007 -** Timing in reporting goodwill write-off from goodwill which arose from an apparent overpayment made at the time of the business acquisition [see **Table 7.7(b)**]

Table 7.7(b): Detail analysis of an addition of goodwill for DEF2 Bhd from 2006-2007

Date		RM	%
26/12/2006	Addition:		
	Group's share of net assets	69,182	30
Item 1	**Goodwill arising from acquisition**	**160,809**	**70**
	Cost of acquisition	229,991	
31/12/2006	Goodwill impairment	-	
31/12/2007	Goodwill impairment	160,809	Fully impaired

Table 7.8(a): Analysis of goodwill movement for DEF3 Bhd from 31 December 2006 to 2007

	Post-FRS 3	
Year	**2006**	**2007**
1. Goodwill data		
(a) Opening goodwill balance	-	42,918
(b) Additions	100,701	
(c) Miscellaneous - Dilution of equity interest in subsidiaries	-	33,000
(d) Goodwill impairment losses	(57,783) **See Table 7.8(b)**	(42,918) **See Table 7.8(b)**
(e) Disposed	-	
(f) Closing goodwill balance	42,918	33,000
(g) Allocation of goodwill to CGUs	No information disclosed	
(h) Basis of recoverable amount	Based on the estimation of VIU	
(i) Accounting policy - Goodwill	Impairment	
2. Segment result		
(a) Number of segments	The company does not disclose the basis of	

(b) Segment result	goodwill allocation. Thus, cannot determine whether the goodwill is allocated to business segment, subsidiaries acquired, or etc. Moreover, there is no information on segment results. Hence, segment result is not applicable.	
	2006	**2007**
3. Financial performance		
(a) Net income (after adding back goodwill impairment loss) available to equity holders	499,000	356,000
(b) Basic EPS (cents)	1.1	0.7
4. The market capitalisation (MV vs. BV)	MV>BV 2.18	MV>BV 1.71
5. Reasons for reporting goodwill impairment losses disclosed in the Notes to the Financial Statement	Although in the Notes to the Financial Statement, the company disclosed the amount of goodwill impairment loss recognised in 2006 and 2007, reasons for such impairment loss was not disclosed both in 2006 and 2007 (DEF3 Bhd, 2006: 49; 2007: 48).	
6. Audit report concerning goodwill	Unqualified opinion in 2006 and 2007 (DEF3 Bhd, 2006: 26; 2007: 24).	
Types of accounting choice identified	Timing in reporting goodwill write-off from goodwill which arose from an apparent overpayment made at the time of the business acquisition [see **Table 7.8(b)**]	

Table 7.8(b): Detail analysis of an addition of goodwill for DEF3 Bhd from 2006 to 2007

Date		RM	%
10/1/2006	Addition:		
	Group's share of net assets	52,434	34%
Item 1	**Goodwill arising from acquisition**	**100,701**	**66%**
	Cost of acquisition	153,135	
31/12/2006	Goodwill impairment	57,783	57%
31/12/2007	Goodwill impairment	42,918	43%
	Total	**100,701**	

When the three companies write-off their goodwill, the reasons for the write-off is either not clearly disclosed in the Notes to the Financial Statement (i.e. DEF1 Bhd, and DEF2 Bhd – see Tables 7.6(a) and 7.7(a), item 5) or not disclosed at all (i.e. DEF3 Bhd - see Table 7.8(a) item 5). For DEF1 Bhd and DEF2 Bhd, the reasons disclosed in the Notes to the Financial Statement seem to inform the shareholders that the goodwill impairment losses occur as a

result of the impairment test of goodwill [see item 5 in Tables 7.6(a) and 7.7(a)]. Nevertheless, from the analyses of goodwill movement for these three companies, it appears that the managers have already decided to fully impair the goodwill and that they chose the timing of the write-off. Therefore, the reporting of goodwill impairment losses for these companies provides evidence of the exercise of managerial discretion in terms of timing in reporting the write-off.

The timing in reporting the write-off discussed above is captured into a scenario (see Figure 7.3). However, because of the extensive manual efforts require to identify companies that have goodwill arising from an apparent overpayment made at the time of business acquisition, this scenario will be set aside for future research.

Figure 7.3: A scenario of companies exercising discretion in timing the goodwill write-off due to an apparent overpayment made at the time of business acquisition

- Selection criteria:
  - (i) Companies that acquired goodwill within the current year.
  - (ii) Group the companies into two. Group 1 (control group) are those companies that fully impair the goodwill acquired immediately. Group 2 (test group) are those companies that reported the impairment losses in the subsequent year.
- Companies in Group 2 will be regarded as companies which exercise an accounting choice in terms of timing in reporting goodwill write-off from goodwill which arose from an apparent overpayment made at the time of acquisition. In the future research, they will be tested in year 1 and against Group 1.

7.3.3 Systematic reduction of goodwill balance

As noted in Figure 7.1 (in Section 7.3), two of the 20 companies analysed reduced their goodwill balance systematically annually (see Tables 7.9 and 7.10). Table 7.9 [see item 1(i)] shows that XYZ1 Bhd had a goodwill

amortisation policy prior to the implementation of FRS 3 in 2007. From 2007 onwards, the company implemented FRS 3, which prohibited the annual amortisation of goodwill. Instead, the company is required to perform an annual impairment test of goodwill. However, Table 7.9 [see item 1(c) and 1(d)] reveals that XYZ1 Bhd continued the process of reducing the goodwill balance systematically. Instead of recording the amount as an amortisation of goodwill [see item 1(c)], it was renamed as goodwill impairment loss [see item 1(d)]. From the table, it is seen that there is no reason for the company to report goodwill impairment losses from 2007 to 2009 when it is experiencing good financial performance (see item 3) and the company's market value is higher than the book value of the net assets from 2003 to 2009 (see item 4).

Table 7.9: Analysis of goodwill movement for XYZ1 Bhd from 31 March 2002-2009

	Pre-FRS 3 (RM'000)				Post-FRS 3 (RM'000)		
Year	2003	2004	2005	2006	2007	2008	2009
1. Goodwill data							
(a) Opening goodwill balance	-	21,902	29,297	27,823	26,349	24,874	23,400
(b) Additions	22,166	8,536	-	-	-	-	-
(c) Miscellaneous - Goodwill amortisation	(264)	(1,141)	(1,474)	(1,474)	-	-	-
(d) Goodwill impairment losses	-	-	-	-	(1,475)	(1,474)	(1,474)
(e) Disposed	-	-	-	-	-	-	-
(f) Closing goodwill balance	21,902	29,297	27,823	26,349	24,874	23,400	21,926
(g) Allocation of goodwill to CGUs	The group operates mainly in Malaysia and involved principally in the domestic marketing of petroleum products						
(h) Basis of recoverable amount	Not stated						
(i) Accounting policy – Goodwill	Goodwill is amortised from the date of initial recognition				Goodwill is reviewed for impairment annually or more frequently		
2. Segment result	The group does not present financial information by segmental information as it is principally involved in the domestic marketing of petroleum products in Malaysia (p. 133).						
3. Financial performance							
(a) Net income (after adding back goodwill impairment loss) available to equity holders	149,101	381,198	210,731	505,964	641,782	663,139	580,145

	2003	2004	2005	2006	2007	2008	2009
(b) Basic EPS (cents)	30.0	76.7	21.2	50.9	64.5	66.6	58.2
4. The market capitalisation (MV vs. BV)	MV>BV 1.24	MV>BV 1.46	MV>BV 1.51	MV>BV 1.33	MV>BV 1.75	MV>BV 2.03	MV>BV 1.89
5. Reasons for reporting goodwill impairment losses disclosed in the Notes to the Financial Statement	Similar reasons for reporting goodwill impairment losses disclosed in the Notes to the Financial Statement in 2007 to 2009 as follows: • Goodwill arose from the acquisition of certain service stations in previous years (XYZ1 Bhd, 2007: 87; 2008: 98; 2009: 119).						
6. Audit report concerning goodwill	Unqualified opinion for 2007 to 2009 (XYZ1 Bhd, 2007: 66; 2008: 75; 2009:91).						
Types of accounting choice identified	**2007-2009** • Systematic reduction of goodwill balance.						

Another case of a company which reduced its goodwill balance systematically is XYZ2 Bhd (see Table 7.10). Unlike XYZ1 Bhd that reduced its goodwill balance by the same amount annually (i.e. using the straight-line method), XYZ2 Bhd reduced its goodwill balance with the same percentage in 2006 and 2007 (i.e. using the reducing balance method). Table 7.10 shows that both in 2006 and 2007, the company reduced 10% of its beginning goodwill balance [see item 1(d)]. In 2008, the company's financial performance declined further (see item 3) and its market value fell below the book value of the net assets (see item 3), which led the company to reduce its beginning goodwill balance by a larger percentage (10% reduction of goodwill balance for the newly acquired goodwill and 20% reduction of beginning goodwill balance for the previously acquired goodwill) [see item 1(d)]. The analyses of goodwill movement presented in Tables 7.9 and 7.10 seem to imply that the managers who were accustomed to the amortisation of goodwill prior to the implementation of FRS 3 were perpetuating this old system by reporting goodwill impairment losses systematically annually.

The practice of reducing goodwill balance via the straight-line method as found with XYZ1 Bhd [see item 1(c) and (d) in Table 7.9] can be easily identified for other listed companies. However, the reducing balance method as applied by XYZ2 Bhd [see item 1(d) in Table 7.10] might be challenging to

detect if there is an addition of goodwill and the managers alter the percentage of goodwill to be reduced. Therefore, the researcher could not easily devise a program that would identify which of these companies had applied a reducing balance method prior to the implementation of FRS 3. The only way to distinguish these companies is through manual analysis of goodwill movement as has been demonstrated for XYZ1 Bhd and XYZ2 Bhd. The amount of manual efforts required to test companies which have reduced their goodwill balances systematically makes its impractical to continue further within the scope of this thesis. Hence, this type of accounting choice will not be explored further.

Table 7.10: Analysis of goodwill movement for XYZ2 Bhd from 31 December 2004-2008

	Pre-FRS3		Post-FRS3		
Year	2004	2005	2006	2007	2008
1. Goodwill data					
(a) Opening goodwill balance	2,269,870	2,247, 171	2,156,375	1,940,738	1,746,664
(b) Additions	-	-	-	-	1,172,691
(c) Miscellaneous - Goodwill amortisation policy for 25 years	(22,699) = 1% of GW(o/b) - Not following the GW-amor[1].	(90,796) = 2,269,870/25 years - As per the GW-amor.	-	-	-
(d) Goodwill impairment loss			(215,637) = 10% x GW[2] (o/b). - GWIL(IL)[3] is a reduction of 10% of the GW balance.	(194,074) = 10% x GW (o/b). - GWIL(IL) is a reduction of 10% of the GW balance.	(466,602) = (10% x new GW) + (20%x GW-o/b) = (10%x1,172, 691) + (20% x 1,746,664) = 349,333+117,269 =466,602.
(e) Disposed	-	-	-	-	-
(f) Closing goodwill bal.	2,247,171	2,156,375	1,940,738	1,746,664	2,452,753
(g) Allocation of goodwill to CGUs	Not stated		Business application software		
(h) Basis of recoverable amount	The higher of Net selling price and value-in-use.		The higher of fair values less costs to sell and value-in-use.		
(i) Accounting policy - Goodwill					
2. Segment result	None- the group principally involved in information technology related business.				

[1] GW-amor denotes amortisation of goodwill
[2] GW denotes goodwill
[3] GWIL(IL) denotes impairment losses of goodwill

Table 7.10 (continue): Analysis of goodwill movement for XYZ2 Bhd from 31 December 2004-2008

	Pre-FRS3		Post-FRS3		
Year	**2004**	**2005**	**2006**	**2007**	**2008**
3. Financial performance					
(a) Net income (after adding back goodwill impairment loss) available to equity holders	408,000	414,000	(1,106,000)	(959,000)	(2,972,000)
(b) Basic EPS (cents)	1.62	0.44	(1.42)	(1.08)	(3.69)
4. The market capitalisation (MV vs. BV)	MV>BV 5.25	MV>BV 1.03	MV>BV 1.06	MV>BV 1.18	MV<BV 0.71
5. Reasons for reporting goodwill impairment losses disclosed in the Notes to the Financial Statement	Similar reasons for reporting goodwill impairment losses disclosed in the Notes to the Financial Statement in 2006 to 2008 as follows: • The Group tests goodwill for impairment annually or more frequently if there are indications that goodwill might be impaired (XYZ2 Bhd, 2006: 42; 2007: 47; 2008: 54).				
6. Audit report concerning goodwill	Unqualified opinion in all of the three years 2006-2008 (XYZ2 Bhd, 2006: 29; 2007: 35; 2008: 41).				
Types of accounting choice identified	Systematic reduction of goodwill balance				

As noted in Sections 4.4.2 and 6.4.2.2, in an attempt to explore whether segment result could be employed as a proxy for an indication that goodwill may be impaired, information concerning segment result is included in the disclosure framework (for e.g. see item 2 of Table 7.3). The result of the disclosure study illustrates that it is challenging to apply the segment result as another proxy for an indication that goodwill may be impaired, especially on a large scale basis. There are two reasons for this. Firstly, though companies have a number of business segments, not all of these segments contain goodwill. Moreover, not all of the segments containing goodwill reported goodwill impairment losses. Therefore, to identify the business segment which reported goodwill impairment losses, a researcher needs to inspect the annual reports for each of the companies. To illustrate, ABC1 Bhd (see Table 7.3) has three business segments. Nevertheless, there is only one business segment (i.e. electrical and mechanical engineering) which reported goodwill

impairment losses. Secondly, not all of the companies allocated their goodwill as per the segment reporting (either business segments or geographical segments). Companies also allocated their goodwill to subsidiaries acquired.

7.4 Summary and conclusions

This chapter has addressed two research questions for the disclosure study (i.e. Research Questions 2 and 3).

Research Question 2 asks about the appropriateness of the market capitalisation indication (i.e. companies' market values lower than the book values of their net assets at the balance sheet date) as a proxy for an indication that goodwill may be impaired. The first part of the disclosure study has revealed that as a stand-alone, the market capitalisation indication is not an ideal proxy for an indication that goodwill may be impaired (see Section 7.2). This is because it does not fully reflect the condition of the cash-generating-units containing goodwill, disclosed in the Notes to the Financial Statement.

Research Question 3 concerns types of accounting choice related to goodwill impairment exercised by Malaysian listed companies. Through an in-depth analysis of the annual reports of 20 companies over a number of years, and using the self-constructed disclosure framework, the second part of the disclosure study has provided evidence of opportunistic timing in reporting goodwill impairment losses (see Section 7.3). This opportunistic timing is evidenced through the four companies which were found to have delayed reporting goodwill impairment losses (see Section 7.3.1) and eight companies that chose when to fully impair its goodwill which arose from an apparent overpayment made at the time of business acquisition (see Section 7.3.2). In addition, this disclosure study has revealed two companies which reduced their goodwill balance systematically every year, suggesting that the managers are perpetuating the old system of amortising their goodwill (see Section 7.3.3).

Two scenarios are constructed to capture the opportunistic timing (see Figures 7.2 and 7.3). However, because of the small number of companies and the extensive manual efforts require, these scenarios are set aside for future research. The deferment of these two scenarios for further research does not affect the quality of this thesis because the measurement study of this thesis (see Chapter 8) analyses the total population of companies which implement FRS 3 for the first three years the standard taking effect. The two scenarios which are constructed to capture the opportunistic timing represent an extension of the measurement study as they attempt to analyse companies' motives in reporting goodwill impairment losses that have become overdue.

In conclusion, by answering Research Question 2, the disclosure study has revealed that as a stand-alone, the market capitalisation indication is not an ideal proxy for an indication that goodwill may be impaired. By answering Research Question 3, the disclosure study has illustrated that when the market capitalisation indication is coupled with the financial performance of companies, and their segment results, it becomes a useful starting point in identifying the accounting choices related to goodwill impairment exercised by Malaysian listed companies. Therefore, the disclosure study contributes to the wider thesis by providing evidence of the degree of discretion managers have in determining the timing and amount of goodwill impairment losses reported by Malaysian listed companies after the implementation of FRS 3.

Chapter 8: Measurement Study of Goodwill Impairment - Results and Analysis

8.1 Introduction

The measurement study of goodwill impairment, presented in this chapter, analyses factors influencing managers' decisions when determining the magnitude of goodwill impairment losses divided by prior year total assets (including goodwill), and zero otherwise reported on the income statement (see Section 1.4.2). This study answers the research questions listed in Figure 8.1 (see Sections 1.3 and 5.2):

Figure 8.1: Summary of research questions (RQ) for the measurement study of goodwill impairment by Malaysian listed companies

Theoretical research question		
RQ 1	:	How can an investigation of FRS 3, focusing on goodwill impairment by Malaysian listed companies, contribute to the theories of accounting choice?
Specific research questions		
RQ 4	:	Economic factors To what extent do the decisions of Malaysian listed companies in measuring goodwill impairment indicate that they reflect the underlying economic values of cash-generating-units containing goodwill?
RQ 5	:	Contracting perspective To what extent do the decisions of Malaysian listed companies in measuring goodwill impairment support the contracting perspective?
RQ 6	:	Opportunistic behaviour perspective To what extent do the decisions of Malaysian listed companies in measuring goodwill impairment support the opportunistic behaviour perspective?
RQ 7	:	Ownership structures To what extent do the decisions of Malaysian listed companies in measuring goodwill impairment indicate that they reflect companies' ownership structures?
RQ 8	:	To what extent do the decisions of Malaysian listed companies in measuring goodwill impairment indicate that they reflect the discretion available in FRS 136 *Impairment of Assets*?

This chapter is structured as follows. Section 8.2 describes the dependent variable, and the distribution of data. Section 8.3 outlines an overall regression model, discusses the issues of multicollinearity, and specifies variables included in the regression models. Section 8.4 analyses the result of the regression Model 1. Section 8.5 reports the results of the overall regression Model 2 and the sensitivity analyses. Sections 8.6 to 8.12.2 discuss the findings for each of the research questions, the control variables, and the overall results. Section 8.13 summarises and concludes the chapter.

8.2 Descriptive analysis

The descriptive analysis discussed in this section describes the dependent variable (see Section 8.2.1) and the distribution of data (see Section 8.2.2).

8.2.1 Dependent variable

Two issues concerning the dependent variable of the measurement study are discussed – the distribution of data (see Section 8.2.1.1) and the skewed data (see Section 8.2.1.2).

8.2.1.1 Dependent variable: Distribution of data

Table 8.1 presents the distribution of data for the dependent variable, i.e. the magnitude of goodwill impairment losses divided by prior year total assets (including goodwill), and zero otherwise reported on the income statement in the first three years of the implementation of FRS 3. The table consists of three panels – Panel A reports the number of firm-years observation reporting goodwill impairment losses and zero goodwill impairment, Panel B focuses on companies which reported goodwill impairment losses only, and Panel C takes a closer look at the companies reported in Panel B by segregating them into three groups.

Table 8.1: Distribution of data for the dependent variable of the measurement study

	Initial year	Second year	Third year	All observations
Panel A: Number of firm-years observation reporting goodwill impairment losses and zero goodwill impairment				
No. of observations				
- Goodwill impairment loss	135	123	111	369
- Zero goodwill impairment	394	374	361	1129
Total	**529**	**497**	**472**	**1498**
Panel B: Relative magnitude of goodwill impairment losses[1]				
Minimum[2]	0.000	0.000	0.000	0.000
Maximum	0.281	0.257	0.183	0.281
Mean	0.009	0.013	0.014	0.012
Median	0.002	0.002	0.002	0.002
Std. Deviation	0.031	0.036	0.029	0.032
Skewness	7.144	4.325	3.573	5.055
Kurtosis	56.134	21.552	15.055	30.429
Kolmogorov-Smirnov test (Sig.)	0.000	0.000	0.000	0.000

	Initial year		Second year		Third year		All observations	
	N	%	N	%	N	%	N	%
Panel C: Grouping of the relative magnitude of goodwill impairment losses (from Panel B)								
<1%	113	83.7%	99	80.5%	80	72.1%	292	79.1%
1% to <10%	20	14.8%	18	14.6%	27	24.3%	65	17.6%
10% and more	2	1.5%	6	4.9%	4	3.6%	12	3.3%
Total	135		123		111		369	

(1) Relative magnitude of goodwill impairment losses refer to magnitude of goodwill impairment losses divided by prior year total assets (inclusive of goodwill) reported on the income statement. It excludes zero goodwill impairment.

(2) Zero amount shown, because the amount of goodwill impairment losses reported by 17 companies is very small that when they are scaled by large amount of prior year total assets inclusive of goodwill, they reach around zero.

Panel A shows that, in each of the years, the majority of the companies reported zero goodwill impairment (see Section 6.3 for detailed illustration). Panel B shows that for observations which reported goodwill impairment

losses only (excluding zero goodwill impairment), the relative magnitude of goodwill impairment losses reported on the income statement ranges from 0.000 to 0.281 with a mean value of 1.2% and a median value of 0.2% (see Section 8.2.1.2 for the issue of skewness). In comparing this result with prior studies (e.g. Francis et al., 1996; Lapointe-Antunes et al., 2008; AbuGhazaleh et al., 2011) who employ exactly the same measure, it is observed that the mean and median values presented in Panel B of Table 8.1 are lower than AbuGhazaleh et al., (2011: 186) who reported a mean goodwill write-off of 1.8% (median 0.3%). Further, this result is much lower than Lapointe-Antunes et al. (2008) and Francis et al., (1996: 120). Lapointe-Antunes et al. (2008: 45) documented a mean goodwill write-off of 6.34% (median 3.57%), and Francis et al., (1996: 120) showed a mean goodwill write-off of 10.1% (median 4.4%).

Panel C reveals that for companies which reported goodwill impairment losses only, the amount of impairment losses reported for the majority of them (e.g. 83.7% in the initial year) is less than 1% of the prior year total assets (inclusive of goodwill). To see whether the relative magnitude of goodwill impairment losses would differ between companies which reported the impairment losses once and those that reported the losses repeatedly, a comparison of the extent of relative magnitude of goodwill impairment losses by these companies is undertaken. The comparison shows that the majority of companies (e.g. 82 of the 135 companies in the initial year - see Appendix 8.1) reported goodwill impairment losses once during the three-year period of investigation, while nineteen companies reported losses thrice. Nonetheless, detailed inspection of the nineteen companies reveals no obvious pattern in reporting the impairment losses.

The high skewness[54] and kurtosis values portrayed in Panels A and B suggest that the dependent variable is not normally distributed - not only for the total observations (Panel A) but also for companies which reported goodwill impairment losses only (Panel B). From Panel B, it is observed that the non-normality of the relative magnitude of goodwill impairment losses reported on

[54] According to Field (2005: 73), skewness of +/- 1.96 and Kurtosis of +/- 3.29 are within the normality threshold (see Section 6.6.1.1).

the income statement is further supported by the result of the Kolmogorov-Smirnov[55] test with significant p-value of less than 0.01.

8.2.1.2 Dependent variable: Skewed data for the relative[56] magnitude of goodwill impairment losses

As noted in Section 6.7.1, the dependent variable for the measurement study comprises zero values and a range of the relative magnitude of goodwill impairment losses. The latter reported high skewness and kurtosis values (see Section 8.2.1.1). According to Cameron and Trivedi (2009: 525), with high skewness and kurtosis, there is a possibility for tobit maximum likelihood estimation to be a flawed estimator for the model. To overcome this issue, two approaches have been considered[57] by the researcher.

The first approach is based on the suggestion made by Cameron and Trivedi (2009: 525 and 532-534), which is to transform the relative magnitude of goodwill impairment losses through natural logarithm, and to use the zero values as they are. Therefore, in this case, the dependent variable would consist of zero values and natural logarithm of the relative magnitude of goodwill impairment losses. The researcher has attempted to follow this suggestion. A random-effects tobit regression is run using the revised dependent variable.

However, because the relative magnitude of goodwill impairment losses comprises many values that are close to zero (e.g. 0.01) (see Panel C of Table 8.1), the natural logarithm of these values produces negative values, which

[55] Kolmogorov-Smirnov with p-value less than 0.05 suggests violation of the assumption of normality (Pallant, 2001: 58) (see Section 6.6.1.1).

[56] The relative magnitude of goodwill impairment losses refer to magnitude of goodwill impairment losses divided by prior year total assets (inclusive of goodwill) reported on the income statement. It excludes zero goodwill impairment.

[57] In considering these two approaches, the researcher has carried out a discussion with Mr Darryl Holden, the author of 'Testing the normality assumption in the tobit model', Journal of Applied Statistics, at his office at the University of Strathclyde, Glasgow, Scotland. The researcher would like to take this opportunity to thanks Mr Darryl Holden for his advices and suggestions.

together with the lower limit censoring (at zero values), resulted in STATA not being able to generate the regression output. To solve this technical problem, the researcher could alter the censoring limit from the lower limit (at zero value) to the upper limit (at zero value), and then run the regression again with the revised dependent variable. However, theoretically, this would be incorrect because goodwill impairment losses cannot be negative. Therefore, the approach of applying natural logarithm to the relative magnitude of goodwill impairment losses, is unsuited to the present measurement study.

The second approach in solving the high skewness and kurtosis values is to replace the denominator of the dependent variable from prior year total assets inclusive of goodwill to goodwill balance at the beginning of the year. This approach has been applied by Beatty and Weber (2006: 273) where their dependent variable is the magnitude of goodwill impairment losses divided by goodwill balance at the beginning of the year, and zero otherwise reported on the income statement. However, when adopting this approach in the present study, the issue of high skewness and kurtosis is not resolved. With the beginning goodwill balance as the new denominator, the skewness and kurtosis values are even higher than when the denominator is the prior year total assets inclusive of goodwill. Therefore, this approach is also unsuitable for the present measurement study.

As the two approaches discussed above cannot be applied in the present measurement study, the researcher has referred back to prior studies analysing goodwill impairment (e.g. Lapointe-Antunes et al., 2008; AbuGhazaleh et al., 2011). However, none of these studies discusses the normality test and the issue of whether the tobit maximum likelihood estimation may be flawed. Therefore, the way forward is for the researcher to employ the initial dependent variable, that is, the dependent variable which comprises zero values and a range of the relative magnitude of goodwill impairment losses. Also, to acknowledge that with the high skewness and kurtosis values, there is a possibility that the tobit maximum likelihood estimation may be a flawed estimator for the model in this measurement study.

8.2.2 Distribution of data for the independent variables and control variables

The descriptive statistics for the continuous and categorical variables employed in the present measurement study are displayed in Appendices 8.2 and 8.3. The appendices highlight three issues concerning the distribution of data. Firstly, ΔSALES is positively skewed with its mean value differing significantly from the median (see Appendix 8.2). Secondly, a number of variables suffer from high frequencies of missing values (see Appendices 8.2 and 8.3 – e.g. DISCRATE). Thirdly, there is a lack of data for the industry dummy (see Appendix 8.3). These three issues will be discussed in Sections 8.2.2.1 to 8.2.2.3 respectively.

8.2.2.1 Skewed data for the independent variables

The mean p-value for change in sales (ΔSALES) is greater than its median and the difference is statistically significant, suggesting that the variable is positively skewed (see Appendix 8.2). Detailed inspection revealed that ΔSALES reports skewness value of 4.418 and kurtosis value of 57.204. According to Field (2005: 73), skewness of +/- 1.96 and Kurtosis of +/- 3.29 are within the normality threshold (see Section 6.6.1.1). For a variable which has a substantially positive skewness with zero values, Tabachnick and Fidell (2007) suggest transforming the variable into logarithmic plus constant value, such as logarithmic plus 1. Following this suggestion, ΔSALES is transformed into Log(ΔSALES+1). Accordingly, the skewness value for Log(ΔSALES+1) is reduced to -0.673.

8.2.2.2 Missing values

The descriptive analysis presented in Appendices 8.2 and 8.3 shows that the variables for testing the discretion available in performing impairment test of goodwill (i.e. CGU_{01}, $CGU_{Continuous}$, DISCRATE, and DISCMULTIPLE) suffer from high frequency of missing values. These variables were not disclosed by more than half of the total firm-years analysed. The missing value analysis is carried out using Little's MCAR test and Separate Variance *t* tests (see Section

6.6.2). The Little's MCAR test produces a Chi-Square value of 1527.70 and is statistically significant at p-value of less than 0.01 (see Appendix 8.4), suggesting that the null hypothesis that the data are missing *completely* at random is rejected. Hence, it is inferred that the data are not missing *completely* at random.

Separate Variance *t* tests are carried out by SPSS only for variables where at least 5% of data missing (see Section 6.6.2). Accordingly, the Separate Variance *t* tests are conducted on eight variables - GWB, DEBTRATIO, $\Delta CEO_{Current/prior}$, CEOTENURE, CGU_{01}, $CGU_{continuous}$, DISCRATE, and DISCMULTIPLE (see Appendix 8.4). In all of the eight variables tested, the Separate Variance *t* tests show that the dependent variable is not statistically significant (see Appendix 8.4). This means that there is no systematic relationship between the missing values faced by each of these eight variables and the dependent variable. This result suggests that the missing values encountered by these eight variables are not related to the dependent variable.

Instead, the missing value is predictable from other independent variables. For example, in Model 1 (see Section 8.4), the total population of firm-years analysed is reduced from 1498 to 538 because of the missing values for CGU_{01}. From Appendix 8.4, it is seen that the missing data on CGU_{01} is more likely to differ, for example, in their $EARNINGS_{Prior}$. Because the missing data is not related to the dependent variable, the result of Separate Variance *t* tests indicates that the data is missing at random (Tabachnick and Fidell, 2007: 63). Consequently, it is inferred that the missing values, which occur at random will not affect the generalisability of results.

Tabachnick and Fidell (2007: 63-71) offer a few solutions to the problem of missing values, such as imputing the missing values, treating missing values as data, deletion of cases, and deletion of variables. In the present study, the high frequency of missing values for the four out of the eight variables (i.e. CGU_{01}, $CGU_{continuous}$, DISCRATE, and DISCMULTIPLE - see Appendix 8.4) makes it impractical to adopt the first two solutions. For example, imputing the data, by replacing the missing score with average score for the related variables may suppress the true value of the standard deviation and the standard error.

Field (2005: 184) explains that the standard deviation will be suppressed because for any replaced case, there will be no difference between the mean value and the score value. If there are many missing values, imputing the data is potentially dangerous as smaller standard errors are more likely to lead to significant results that are a product of replacement rather than a genuine effect (Field, 2005:184).

Because the Separate Variance *t* tests indicate that the missing values occur at random, the issue of missing values is solved by constructing Model 2(h)(i) and (ii), which is a subcategory of Model 2 (see Section 8.3.3 and Table 8.3). The model retains those variables testing economic factors, contracting perspective, opportunistic behaviour perspective, ownership structures, and control variables. However, it excludes all of the variables testing the discretion (see Table 8.3). Thus, Models 2(h) (i) and (ii) solve the problem of missing values by deleting variables testing the discretion such as CGUs and discount rates that suffer from a high frequency of missing values.

8.2.2.3 Lack of data for industry variable

Due to the small number of companies involved, the industry group classification is reduced from 10, by combining these into five groups as follows: (i) industrials and basic materials, (ii) consumer goods and services, (iii) financials, (iv) utilities, healthcare and oil and gas, and (v) technology and telecommunication (see Appendix 8.3). The reduction of 10 industries to five industries follows as closely as possible the industry classification as provided by Bursa Malaysia, which is also applied by Haniffa (1999: 295).

8.3 Multivariate analyses

The multivariate analyses discuss in this section include an overall regression model (see Section 8.3.1), the issue of multicollinearity (see Section 8.3.2), and model specifications (see Section 8.3.3).

8.3.1 An overall regression model

An overall regression model (see Appendix 1 of the thesis for detailed definitions of these variables) is applied in this section as follows:

GWIL = f(Economic factors, Contracting perspective, Opportunistic behaviour perspective, Ownership structures, Discretion available in performing impairment test of goodwill, Control variables) + ε

Where;

Variable	Description
GWIL	= The magnitude of goodwill impairment losses, divided by prior year total assets (including goodwill), and zero otherwise reported on the income statement.
Economic factors	
ΔSALES (H_1)	Change in sales divided by total assets at the end of prior year = $\frac{(Sales_t - Sales_{t-1})}{Total\ assets_{t-1}}$ The variable is transformed into Log(ΔSALES+1) (see Section 8.2.2.1).
$EARNINGS_{Prior}$[58] (H_{2A})	Prior year earnings divided by total assets at the end of prior year.
$EARNINGS_{PreGWILcurrent}$ (H_{2B})	Current year pre-write-off earnings divided by total assets at the end of prior year.
$\Delta EARNINGS_{preGWIL}$($H_3$)	Change in pre-write-off earnings divided by total assets at the end of prior year = $\frac{[EARNINGS_t + GWIL(IL)_t] - [EARNIINGS_{t-1} + GWIL(IL)_{t-1}]}{Total\ assets_{t-1}}$
ΔOCF (H_4)	Change in operating cash flows divided by total assets at the end of prior year = $(OCF_t - OCF_{t-1})/Total\ assets_{t-1}$
BTM (H_5)	Book-to-market ratio = Company *i*'s book value of equity divided by market value of equity at the end of current year.
GWB (H_6)	Relative size of goodwill balance = $\frac{Opening\ goodwill\ balance_t}{Total\ assets_{t-1}}$
Contracting perspective	
DEBTRATIO (H_7)	Debt contracting = $\frac{Total\ Debts_{t-1}}{Total\ assets_{t-1}}$
Opportunistic behaviour perspective	

[58] $EARNINGS_{Prior}$ and $EARNINGS_{PreGWILcurrent}$ are not tested in the same regression model (see Section 8.3.3 for the detailed of the model specifications).

$\Delta CEO_{Current/prior}(H_8)$	Change in CEO[59] = One if there is a change in CEO in the previous financial year or current financial year, and zero otherwise.
CEOTENURE (H_9)	CEO tenure = Number of years that the CEO has held the position
BATH (H_{10})	Big bath reporting = Change in pre-write-off earnings from prior year to current year, divided by total assets at the end of prior year, when this change is below the median of non-zero negative values of this variable, and zero otherwise.
SMOOTH (H_{11})	Earnings smoothing = Change in pre-write-off earnings from prior year to current year, divided by total assets at the end of prior year, when this change is above the median of non-zero positive values of this variable, and zero otherwise.
Ownership structures	
$MANOWN_{Linear}$ (H_{12A}) - Linear relationship	Managerial ownership = No. of ordinary shares held directly by executive directors / Total number of issued and paid up ordinary shares
$MANOWN_{Non\text{-}monotonic}$ (H_{12B}) - Non-monotonic relationship	MANOWN1 • board ownership if board ownership < 0.05 • 0.05 if board ownership ≥ 0.05 MANOWN2 • 0 if board ownership < 0.05 • board ownership minus 0.05 if 0.05≤board ownership< 0.25 • 0.20 if board ownership ≥ 0.25 MANOWN3 • 0 if board ownership < 0.25 • board ownership minus 0.25 if board ownership ≥ 0.25
OUTCON (H_{13})	Outside ownership concentration = Number of ordinary shares held by outsiders with the five largest claims, divided by the total number of issued and paid up ordinary shares.
Discretion available in performing impairment test of goodwill	
CGU_{01} (H_{14A})	Cash-generating-units containing goodwill = One if there is more than one CGUs in current year, and zero otherwise.
$CGU_{Continuous}$ (H_{14B})	Cash-generating-units containing goodwill = The actual number of CGUs containing goodwill disclosed in the annual reports at the end of the current year.
DISCRATE (H_{15A})	% of discount rates employed for the purpose of computing the recoverable amount of CGUs containing goodwill disclosed in annual reports at the end of current year.
DISCMULTIPLE (H_{15B})	Application of a single or multiple discount rates = One if companies applied multiple discount rates, and zero for single discount rates.
$DISCRATE_{Disclosed/Not}$ (H_{15C})	Discount rates - disclosed or not = One if companies do not disclose the discount rates, and zero otherwise.

[59] Sensitivity analysis is carried out for additional definitions of ΔCEO (see Section 8.5.2.1).

Control variables	
SIZE (H_{16})	Natural logarithm of total assets at the end of prior year.
INDUSTRYG5 (H_{17})	Types of industry = A dummy variable across five industry categories.
YEND (H_{18})	Financial year-end = A dummy variable across three financial year-end categories (i.e. 2006, 2007, and 2008).
ADD (H_{19})	Additions to goodwill = One if there is a newly acquired goodwill, and zero otherwise.
E	= Error term

8.3.2 Multicollinearity

Multicollinearity is assessed using Pearson's product-moment correlation coefficient test and variance inflation factor (VIF) computed by regression analysis (see Section 6.6.3). This section discusses the result of the Pearson's product-moment correlation coefficient test. The result of VIF is shown in Section 8.4 after running the regression analysis.

Table 8.2 shows the result of the Pearson's product-moment correlation coefficient test performed on the continuous variables[60]. Gujarati and Porter (2009: 338) suggested that if the pair-wise correlation coefficient between two regressors is in excess of 0.8, it indicates an issue of multicollinearity (see Section 6.6.3). Following this suggestion, Table 8.2 shows that for the most part, the independent variables are not significantly correlated with one another or with the control variables. Exceptions include the correlations between: (1) $MANOWN_{Linear}$ and MANOWN1, and (2) $MANOWN_{Linear}$ and MANOWN2, which are correlated by construction, and (3) $\Delta EARNINGS_{preGWIL}$ and SMOOTH. Multicollinearity is not an issue in practice for the first two correlations because these variables are included in different regression models (see Section 8.3.3 for the model specification).

[60] Pearson's correlation is not performed on the categorical variables because according to Field (2005: 125), the correlation requires data which are measured at an interval or ratio level for the result to be meaningful.

Table 8.2: Pearson product-moment correlation coefficients

Variable		1	2	3	4	5	6	7	8	9	10
1	GWIL	1.00									
2	Log(ΔSALES+1)(H1)	-0.02	1.00								
3	$EARNINGS_{Prior}$ (H2A)	-0.14**	0.10**	1.00							
4	$EARNINGS_{PreGWILCurrent}$(H2B)	-0.17**	0.22**	0.59**	1.00						
5	$\Delta EARNINGS_{preGWIL}$(H3)	-0.02	0.15**	-0.26**	0.54**	1.00					
6	ΔOCF (H4)	-0.00	0.18**	-0.04	0.18**	0.22**	1.00				
7	BTM (H5)	-0.02	-0.15**	-0.19**	-0.22**	-0.08**	-0.03	1.00			
8	GWB (H6)	-0.04	0.05	-0.01	-0.02	-0.01	0.07*	-0.02	1.00		
9	DEBTRATIO (H7)	0.10	-0.04	-0.24**	-0.16**	0.09**	0.02	0.07*	-0.02	1.00	
10	CEOTENURE (H9)	0.03	-0.04	0.04	0.05*	0.04	-0.02	0.08**	-0.17**	0.07**	1.00
11	BATH (H10)	-0.10**	0.13**	-0.02	0.48**	0.66**	0.04	0.02	-0.05	0.13**	0.07**
12	SMOOTH (H11)	0.04	0.10**	-0.34**	0.35**	0.82**	0.27**	-0.11**	0.04	-0.04	0.07**
13	$MANOWN_{Linear}$ (H12A)	-0.04	0.02	0.04	0.01	-0.01	0.00	-0.02	0.03	-0.05	-0.01
14	MANOWN1 ($H12B_1$)	-0.03	-0.00	-0.01	-0.03	-0.01	0.01	0.07*	-0.00	0.06*	-0.01
15	MANOWN2 ($H12B_2$)	-0.01	0.05*	0.02	0.01	-0.00	0.01	-0.02	0.02	-0.03	-0.01
16	MANOWN3 ($H12B_3$)	-0.00	0.07*	0.10**	0.04	-0.05	-0.02	-0.03	0.03	-0.09**	-0.07*
17	OUTCON (H13)	-0.05	0.01	0.12**	0.12**	0.01	0.00	-0.09**	-0.04	-0.01	-0.12**
18	$CGU_{continuous}$ (H14B)	0.12**	0.01	0.02	-0.01	-0.01	0.03	-0.11**	-0.00	0.05	-0.08*
19	DISCRATE (H15A)	0.01	0.07	0.07	0.01	-0.06	-0.00	-0.10*	0.03	-0.11**	-0.13**
20	SIZE (H16)	0.06*	-0.03	0.06*	0.08**	0.03	-0.01	-0.08**	-0.06*	0.11**	0.19**
Variable		**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
12	SMOOTH (H11)	0.12**	1.00								
13	$MANOWN_{Linear}$ (H12)	-0.06*	0.04	1.00							
14	MANOWN1 ($H12B_1$)	-0.06*	0.04	0.94**	1.00						
15	MANOWN2 ($H12B_2$)	-0.06**	0.04	0.89**	0.69**	1.00					
16	MANOWN3 ($H12B_3$)	-0.04	-0.04	0.59**	0.37**	0.67**	1.00				
17	OUTCON (H13)	0.08**	-0.06*	-0.62**	-0.62**	-0.60**	-0.47**	1.00			
18	$CGU_{continuous}$ (H14B)	0.07	-0.05	-0.09*	-0.09*	-0.08	-0.07	0.02	1.00		
19	DISCRATE (H15A)	-0.16**	0.04	-0.04	-0.04	-0.02	-0.04	-0.04	0.05	1.00	
20	SIZE (H16)	0.16**	-0.08**	-0.38**	-0.38**	-0.33**	-0.25**	0.28**	0.42**	0.11**	1.00

*****, ****** denote significance at the 0.05, and 0.01 level, respectively (two-tailed)

The high correlation (0.82) between $\Delta EARNINGS_{preGWIL}$ and SMOOTH at p-value less than 0.01 is similar to Riedl (2004: 841). In his study, Riedl (2004: 841) found $\Delta EARNINGS_{preGWIL}$ and SMOOTH to be correlated at 0.786 with p-value less than 0.01. He (p. 832) reasoned that since the variance inflation factors (VIF) for the two variables are less than 5[61], multicollinearity does not appear to be significant. On the other hand, for the present measurement study, VIF for $\Delta EARNINGS_{preGWIL}$ and SMOOTH are high. The VIF for $\Delta EARNINGS_{preGWIL}$ is 52.68 and for SMOOTH is 25.19. To overcome the issue of multicollinearity, $\Delta EARNINGS_{preGWIL}$ and SMOOTH are analysed separately (see Section 8.3.3 for the model specification).

8.3.3 Model specifications

Two main random-effects tobit regression models have been constructed – Model 1, and Model 2. Model 1 has been constructed with the aim of comparing the result of the present measurement study with AbuGhazaleh et al. (2011) (see Section 5.3 for detailed explanation). With the exceptions of corporate governance variables, and a cross-listing variable which are not included in the model (see Section 5.3), variables presented in Model 1 are similar to those of AbuGhazaleh et al. (2011).

Model 2 has been developed with three purposes (see Table 8.3 for the model specifications). Firstly, to incorporate variables which capture the ownership structures of Malaysian listed companies, i.e. managerial ownership, and outside ownership concentration [see Model 2(a)(i) and (ii) in Table 8.3]. Model 2(a)(i) tests the linear relationship between managerial ownership and reporting goodwill impairment losses while Model 2(a)(ii) tests the non-monotonic relationship between the two variables.

[61] VIF of a variable which exceed 10 is regarded as highly collinear by Gujarati and Porter (2009: 340) (see Section 6.6.3).

Table 8.3: Models specification for the analysis of the measurement of goodwill impairment

Model	Specifications of the variables
Model 1	$= \alpha + Log(\Delta SALES+1) + EARNINGS_{Prior} + \Delta OCF + BTM + GWB + DEBTRATIO + \Delta CEO_{Current/prior} + BATH + SMOOTH + CGU_{01} + SIZE + YEND + ADD + \varepsilon$
Model 2(a)(i)	= Model 1 + Ownership variables (i.e. $MANOWN_{Linear}$, and OUTCON)
Model 2(a)(ii)	= Model 1 + MANOWN1 + MANOWN2 + MANOWN3 + OUTCON
Model 2(b)	= Model 1- CGU_{01} + Discretion (i.e. $CGU_{Continuous}$, DISCRATE, DISCMULTIPLE, and $DISCRATE_{Disclosed/Not}$)
Model 2(c)	= Model 1 + CEO tenure (i.e. CEOTENURE)
Model 2(d)	= Model 1 + Industry variable (i.e. INDUSTRYG5)
Model 2(e)	= Model 1 – $EARNINGS_{Prior}$ + $EARNINGS_{PreGWILCurrent}$
Model 2(f)	= Model 1 – $EARNINGS_{Prior}$ + $\Delta EARNINGS_{preGWIL}$ – SMOOTH
Model 2(g)(i)	= Model 1 + MANOWN1 + MANOWN2 + MANOWN3 + OUTCON - CGU_{01} + $CGU_{Continuous}$ + DISCRATE + DISCMULTIPLE + $DISCRATE_{Disclosed/Not}$ + CEOTENURE + INDUSTRYG5 - $EARNINGS_{Prior}$ + $EARNINGS_{PreGWILcurrent}$
Model 2(g)(ii)	= Model 1 + MANOWN1 + MANOWN2 + MANOWN3 + OUTCON - CGU_{01} + $CGU_{Continuous}$ + DISCRATE + DISCMULTIPLE + $DISCRATE_{Disclosed/Not}$ + CEOTENURE + INDUSTRYG5 - $EARNINGS_{Prior}$ + $\Delta EARNINGS_{preGWIL}$ - SMOOTH
Model 2(h)(i)	= Model 2(g)(i) - Discretion (i.e. $CGU_{Continuous}$, DISCRATE, DISCMULTIPLE, and $DISCRATE_{Disclosed/Not}$)
Model 2(h)(ii)	= Model 2(g)(ii) - Discretion (i.e. $CGU_{Continuous}$, DISCRATE, DISCMULTIPLE, and $DISCRATE_{Disclosed/Not}$)

Secondly, to include variables which are pertinent to understanding the measurement of goodwill impairment but are not tested by AbuGhazaleh et al. (2011). These variables are categorised into three groups: (i) variables testing the discretion such as CGUs available to managers in performing an impairment test of goodwill (i.e. $CGU_{Continuous}$, DISCRATE, DISCMULTIPLE, and $DISCRATE_{Disclosed/Not}$) [see Model 2(b)], (ii) CEO tenure [see Model 2(c)], and (iii) industry variable which has been tested by prior studies (e.g. Beatty and Weber, 2006: 283; Lapointe-Antunes et al., 2008: 44; AbuGhazaleh[62] et al., 2011: 195) [see Model 2(d)].

Thirdly, to improve prior year earnings ($EARNINGS_{Prior}$) as employed by AbuGhazaleh et al. (2011) by replacing the variable with current year pre-write-off earnings in Model 2(e) and change in pre-write-off earnings from prior year to current year in Model 2(f). In Model 2(f), because of the high correlation between $\Delta EARNINGS_{preGWIL}$ and SMOOTH (see Section 8.3.2), SMOOTH is dropped from the model (see Table 8.3).

To see the effect of incorporating and changing variables moving away from the model of AbuGhazaleh et al. (2011), Model 2 is developed in a number of stages starting from Model 2(a)(i) to Model 2(h)(ii) (see Table 8.3). Specifically, Models 2(a)(i) to Model 2(f) replicate Model 1 and incorporate additional variable(s) as discussed above. Further, Model 2(g)(i) is a combination of all of the variables included in Model 2(a)(ii) to 2(e) (see Table 8.3). Meanwhile, Model 2(g)(ii) is a combination of all of the variables included in Models 2(a)(ii) to 2(d) and 2(f). The model is developed separately from Model 2(g)(i) because of the issue of multicollinearity between $\Delta EARNINGS_{preGWIL}$ and SMOOTH (see Section 8.3.2). Additionally, because of the high frequency of missing values for variables testing the discretion (see Section 8.2.2.2), Models 2(h)(i) and (ii) are added in. Model 2(h) retains the variables testing economic factors, contracting perspective, opportunistic

[62] AbuGhazaleh et al. (2011: 195) tested industry variable as part of an additional analysis (not reported in the main regression model), and the study found the variable as non-significant.

behaviour perspective, ownership structures, and control variables. However, it excludes all of the variables testing the discretion. Therefore, with the exception of variables testing the discretion, Model 2(h)(i) replicates Model 2(g)(i) while Model 2(h)(ii) replicates Model 2(g)(ii).

8.4 Regression result for Model 1

This section reports the random-effects tobit regression Model 1 (see Sections 6.7.1 and 6.7.2 for the rationale of using random-effects tobit). Table 8.4 summarises the result of Model 1 and how it compares to AbuGhazaleh et al. (2011: 190). It is noted that the analysis of Model 1 is based on 538 observations, which are fewer than the total population of 1498 due to missing values (see Section 8.2.2.2 for detailed discussion of the missing values analysis). Also, the model reveals that the largest variance inflation factor (VIF) is 1.62 and that the VIFs for all of the variables are below 2. Multicollinearity becomes an issue when VIF exceeds 10 (Gujarati and Porter, 2009: 340) (see Section 6.6.3). Thus, the VIF results further reinforce the lack of multicollinearity issue in the random-effect tobit regression Model 1 (see Section 8.3.2).

The goodness-of-fit for the random-effects tobit model is evaluated using the log-likelihood and the overall Wald test (see Section 6.9). Table 8.4 shows that Model 1, which incorporates 10 independent variables and three control variables, is significant (at p-value less than 0.05) with Wald Chi-square of 27.69 and log likelihood of 186.398. This means that the model as a whole fit significantly better than an empty model (i.e. a model with no predictor). The goodness-of-fit for the model cannot be compared with AbuGhazaleh et al. (2011) as this prior study pooled all of the observations from two years and then ran a tobit model.

Table 8.4: Factors influencing managerial decisions on the measurement of goodwill impairment - Comparison of the regression results between Model 1 and AbuGhazaleh et al. (2011)

	Sign	Model 1 - Random-effects tobit			AbuGhazaleh et al. (2011: 190) - Tobit model	
		Coefficient	z-statistics	VIF	Coefficient	t-statistics
No. of observations		538			528	
Intercept		-0.057	-3.74***		-0.169	6.28***
Economic factors						
Log(ΔSALES+1) (H1)	-	-0.019	-1.03	1.16	0.006	0.94
$EARNINGS_{Prior}$ (H2A)	-	-0.042	-1.71*	1.52	-0.053	-1.82*
ΔOCF (H4)	-	0.002	0.29	1.09	-0.059	-1.76*
BTM (H5)	+	0.001	0.79	1.36	0.020	1.96**
GWB (H6)	+	0.030	1.17	1.10	0.022	1.36
Contracting perspective						
DEBTRATIO (H7)	?	0.005	0.52	1.16	-0.012	-0.71
Opportunistic behaviour perspective						
$\Delta CEO_{Current/prior}$ (H8)	+	0.010	2.17**	1.06	0.011	1.73*
BATH (H10)	-	-0.085	-2.35**	1.09	-0.094	-3.38***
SMOOTH (H11)	+	0.068	1.68*	1.32	0.102	2.14**
Discretion in an impairment test						
CGU_{01} (H14A)	?	0.003	0.71	1.15	0.013	1.46
Corporate governance						
BINDEP		-	-		0.046	2.13**
SEPCHAIR		-	-		0.006	0.48
BACTIVITY		-	-		0.003	3.85***
BLOCK		-	-		0.001	2.68***
EXEOWN		-	-		0.060	2.05**
NONEXEOWN		-	-		0.110	2.39**
Control variables						
SIZE (H16)	?	0.002	2.03**	1.23	0.003	1.18
YEND (H18) - Year 1	?					
- Year 2		0.001	0.26	1.49	0.010	1.65
- Year 3		0.000	0.05	1.62		
ADD (H19)	+	-0.001	-0.39	1.17	0.017	2.28**
USCLIST		-	-		0.020	1.96**
Log likelihood		186.398			-	
Wald Chi-square		27.69**			-	

*, **, *** denote significance at the 0.10, 0.05, and 0.01 level, respectively (two-tailed)

As for the variables tested in Model 1, similarities between the result of Model 1 and AbuGhazaleh et al. (2011) occur in four areas. Firstly, with regards to an opportunistic behaviour perspective, consistent with AbuGhazaleh et al. (2011), in Model 1 of the present study, three variables are found to be statistically significant, as predicted, in the measurement of goodwill impairment by Malaysian listed companies. These are $\Delta CEO_{Current/prior}$, BATH, and SMOOTH (see Table 8.4). Nevertheless, the level of significance found in the present study differs from AbuGhazaleh et al. (2011) (see Section 8.8 for detailed discussion of these variables).

Secondly, in terms of the contracting perspective, similar to AbuGhazaleh et al. (2011), Model 1 shows that debt ratio is non-significant in the measurement of goodwill impairment (see Section 8.7 for detail).

Thirdly, in terms of the discretion available to managers in performing an impairment test of goodwill, consistent with AbuGhazaleh et al. (2011), Model 1 of the present study reports non-significance of CGU_{01} (see Section 8.10.1 for detailed discussion of the CGU).

Fourthly, three variables that are grouped under the economic factors also provide results consistent with AbuGhazaleh et al. (2011). Similar to AbuGhazaleh et al. (2011), prior year earnings ($EARNINGS_{Prior}$) is found marginally significant (at p-value less than 0.10). In addition, relative size of goodwill balance (GWB) and change in sales [Log(ΔSALES+1)] are found non-significant in the present measurement study and also in AbuGhazaleh et al. (2011).

Key differences between the result of Model 1 and AbuGhazaleh et al. (2011) relate to control variables and the remaining variables testing the economic factors. For the control variable, Model 1 shows SIZE to be statistically significant; which is not the case for AbuGhazaleh et al. (2011). Alternatively, AbuGhazaleh et al. (2011) document additions to goodwill (ADD) as a significant factor in explaining the measurement of goodwill; Model 1 does not report similar result.

For the economic factors, AbuGhazaleh et al. (2011) reported ΔOCF and BTM as significant in explaining the measurement of goodwill impairment. However, in Model 1, none of these variables is statistically significant.

Because of the similarities with respect to three variables proxying for an opportunistic behaviour perspective ($\Delta CEO_{Current/prior}$, BATH, and SMOOTH), the comparison of results between Model 1 and AbuGhazaleh et al. (2011), presented in Table 8.4, seems to suggest that the opportunistic behaviour perspective is applicable among Malaysian listed companies as it is applied when explaining the measurement of goodwill impairment among UK listed companies. Moreover, studies analysing goodwill impairment by US listed companies (e.g. Beatty and Weber, 2006; Guler, 2007; Zang, 2008) and Canadian listed companies (e.g. Lapointe-Antunes et al., 2008) also found that an opportunistic behaviour perspective helps explained the measurement of goodwill impairment (see Section 5.6). Yet, all of these studies have focused on listed companies in developed economies with ownership structures that differ from Malaysian listed companies (see Section 2.3.3).

Prior studies document that compared to listed companies in developed economies, such as the UK and US, listed companies in Malaysia are managed by their owners and that they have concentrated ownership (see Section 3.4). In addition, La Porta et al. (1998: 471) and Claessens et al. (2000: 82) believed that the theoretical study of Jensen and Meckling (1976) was developed around the image of companies with disperse ownership (see Section 2.3.3). Therefore, before making any inferences on the applicability of an opportunistic behaviour perspective, it is important to explore the influence of ownership structures on the measurement of goodwill impairment by Malaysian listed companies. This is undertaken in Model 2 (see Section 8.5).

8.5 Overall regression results for Model 2: Malaysian context

This section discusses the result of the overall model (see Section 8.5.1) and the sensitivity analyses carried out for three variables (see Section 8.5.2).

8.5.1 Results of the overall models

Model 2 comprises eleven subcategories starting from Model 2(a)(i) to Model 2(h)(ii) (see Table 8.5). In term of the goodness-of-fit for Model 2, Table 8.5 shows that of the eleven models constructed, eight models [i.e. Model 2 (a)(i) and (ii),(c), (d), (e), (f), (h)(i), and (h)(ii)] reported high Wald Chi-square values and are statistically significant while three models [i.e. Model 2 (b), (g)(i), and (g)(ii)] reported low Wald Chi-square values and are non-significant.

The goodness-of-fit of the models constructed in the present study, which is based on log-likelihood and the Wald test generated by a random-effects tobit model, cannot be compared with prior studies examining either goodwill impairment (e.g. Beatty and Weber, 2006; Guler, 2007; Lapointe-Antunes et al., 2008; Zang, 2008; AbuGhazaleh et al., 2011) or asset write-offs (e.g. Francis et al., 1996; Riedl, 2004). This is because none of these studies applied a random-effects tobit model. For example, Beatty and Weber (2006), Guler (2007), Lapointe-Antunes et al. (2008), and Zang (2008) analysed goodwill impairment within a one year period (without analysing a combination of cross-sectional and time-series data). Hence they were using tobit regression model.

8.5.2 Sensitivity analyses

Sensitivity analyses are performed on three variables, namely, change in CEO (see Section 8.5.2.1), managerial ownership (see Section 8.5.2.2), and prior year earnings (see Section 8.5.2.3). The sensitivity analyses for the first two variables are tested in Model 2(h)(i) and Model 2(h)(ii). These two models are selected because they produce the highest Wald Chi-squares with statistically significant p-values, suggesting that these models can better explain the overall factors influencing managerial decisions on the measurement of goodwill impairment than the other models shown in Table 8.5. The sensitivity analysis for prior year earnings is tested in Model 1, and Models 2(a)(i) to (d) because the variable is not included in Models 2(h)(i) and (ii).

Table 8.5: Random-effects tobit regression Model 2: Factors influencing managerial decisions on the measurement of goodwill impairment

	Sign	The results of coefficients (Z statistics) for Model 2										
		(a)(i)	**(a)(ii)**	**(b)**	**(c)**	**(d)**	**(e)**	**(f)**	**(g)(i)**	**(g)(ii)**	**(h)(i)**	**(h)(ii)**
Observations (N)		518	518	374	531	537	537	537	358	358	1124	1124
Intercept		-0.047 (-2.75)***	-0.054 (-2.82)***	-0.050 (-2.75)***	-0.060 (-3.87)***	-0.057 (-3.56)***	-0.054 (-3.58)***	-0.061 (-3.95)***	-0.044 (-1.77)*	-0.052 (-2.16)**	-0.038 (-2.76)***	-0.008 (-2.67)***
Economic factors												
Log(ΔSALES +1) (H1)	-	-0.016 (-0.86)	-0.021 (-1.11)	-0.007 (-0.30)	-0.018 (-0.97)	-0.017 (-0.95)	-0.016 (-0.88)	-0.026 (-1.43)	-0.004 (-0.15)	-0.007 (-0.31)	-0.003 (0.21)	-0.007 (-0.55)
$EARNINGS_{Prior}$ (H2A)	-	-0.049 (-2.15)**	-0.044 (-1.78)*	-0.049 (-1.45)	-0.041 (-1.63)	-0.040 (-1.62)	-	-	-	-	-	-
$EARNINGS_{PreGWILcurrent}$ (H2B)	-	-	-	-	-	-	-0.080 (-2.72)***	-	-0.064 (-1.48)	-	-0.090 (-4.87)***	-
$\Delta EARNINGS_{preGWIL}$ (H3)	-	-	-	-	-	-	-	0.104 (2.97)***	-	0.140 (2.52)**	-	0.062 (2.89)***
ΔOCF (H4)	-	0.002 (0.31)	0.003 (0.37)	-0.007 (-0.41)	0.001 (0.19)	0.002 (0.25)	0.001 (0.20)	0.004 (0.54)	-0.004 (-0.24)	-0.006 (-0.37)	0.002 (0.20)	0.001 (0.10)
BTM (H5)	+	0.000 (0.31)	0.001 (1.02)	0.001 (0.33)	0.001 (0.88)	0.001 (0.70)	0.001 (0.62)	0.001 (1.15)	0.000 (0.42)	0.002 (0.98)	-0.001 (-0.56)	-0.000 (0.26)
GWB (H6)	+	0.016 (0.70)	0.024 (0.93)	0.010 (0.32)	0.035 (1.32)	0.031 (1.17)	0.034 (1.31)	0.029 (1.11)	0.014 (0.44)	0.003 (0.11)	0.021 (1.31)	0.021 (1.32)
Contracting perspective												
DEBTRATIO (H7)	?	0.002 (0.20)	0.004 (0.36)	-0.005 (-0.40)	0.004 (0.38)	0.006 (0.63)	-0.000 (-0.02)	0.010 (1.06)	-0.006 (-0.51)	0.001 (0.10)	-0.014 (-1.86)*	-0.005 (-0.65)

*****, ******, ******* denote significance at the 0.10, 0.05, and 0.01 level, respectively (two-tailed)

Table 8.5 (continue): Random-effects tobit regression Model 2: Factors influencing managerial decisions on the measurement of goodwill impairment

	Sign	The results of coefficients (Z statistics) for Model 2										
		(a)(i)	(a)(ii)	(b)	(c)	(d)	(e)	(f)	(g)(i)	(g)(ii)	(h)(i)	(h)(ii)
Opportunistic behaviour perspective												
$\Delta CEO_{Current/prior}$ (H8)	+	0.011 (2.43)**	0.011 (2.42)**	0.015 (2.60)***	0.012 (2.37)**	0.010 (2.23)**	0.009 (2.07)**	0.010 (2.22)**	0.019 (2.82)***	0.019 (2.79)***	0.011 (2.49)**	0.012 (2.63)***
CEOTENURE (H9)	-	-	-	-	0.000 (1.13)	-	-	-	0.000 (0.85)	0.000 (0.65)	0.000 (1.67)*	0.000 (1.24)
BATH (H10)	-	-0.091 (-2.53)**	-0.079 (-2.13)**	-0.096 (-1.93)*	-0.088 (-2.41)**	-0.082 (-2.25)**	-0.009 (-0.22)	-0.181 (-3.20)***	-0.032 (-0.50)	-0.233 (-2.76)***	-0.052 (-1.96)*	-0.194 (-5.87)***
SMOOTH (H11)	+	0.052 (1.36)	0.058 (1.41)	0.09 (1.59)	0.072 (1.78)*	0.066 (1.64)	0.128 (3.51)***	-	0.147 (2.52)**	-	0.080 (3.66)***	-
Ownership structure												
$MANOWN_{Linear}$ (H12A)	?	-0.002 (-0.53)	-	-	-	-	-	-				
MANOWN1 ($H12B_1$)	?	-	-0.002 (-1.48)						-0.002 (-1.14)	-0.002 (-1.12)	-0.002 (-2.31)**	-0.002 (-2.44)**
MANOWN2 ($H12B_2$)	?	-	0.000 (0.97)						0.000 (0.18)	-0.002 (0.30)	0.000 (0.40)	0.000 (0.71)
MANOWN3 ($H12B_3$)	?	-	0.000 (0.77)						0.000 (1.15)	0.000 (1.09)	0.000 (0.93)	0.000 (0.33)
OUTCON (H13)	?	-0.000 (-1.75)*	-0.000 (-0.89)	-	-	-	-	-	-0.000 (-1.21)	-0.000 (-1.10)	-0.000 (-1.87)*	-0.000 (-2.22)**

*, **, *** denote significance at the 0.10, 0.05, and 0.01 level, respectively (two-tailed)

Table 8.5 (continue): Random-effects tobit regression Model 2: Factors influencing managerial decisions on the measurement of goodwill impairment

	Sign	The results of coefficients (Z statistics) for Model 2										
		(a)(i)	**(a)(ii)**	**(b)**	**(c)**	**(d)**	**(e)**	**(f)**	**(g)(i)**	**(g)(ii)**	**(h)(i)**	**(h)(ii)**
Discretion - impairment test												
CGU_{01} (H14A)	?	0.005 (1.49)	0.003 (0.81)	-	0.003 (0.75)	0.003 (0.76)	0.002 (0.64)	0.002 (0.51)	-	-	-	-
$CGU_{Continuous}$ (H14B)	?	-	-	0.001 (1.26)	-	-	-	-	0.001 (1.22)	0.001 (1.35)	-	-
DISCRATE (H15A)	?	-	-	-0.001 (-1.20)	-	-	-	-	-0.001 (-1.01)	-0.001 (-1.12)	-	-
DISCMULTIPLE (H15B)	?	-	-	0.004 (0.80)	-	-	-	-	0.002 (0.58)	0.003 (0.68)	-	-
Control variables												
SIZE (H16)	?	0.002 (2.25)**	0.002 (2.05)**	0.002 (1.63)	0.002 (2.03)**	0.002 (1.86)*	0.002 (2.08)**	0.002 (2.06)**	0.002 (1.46)	0.002 (1.58)	0.002 (2.05)**	0.001 (1.45)
INDUSTRYG 5 (H17) 1 – Indust. and B.m	?	-	-	-	-		-	-				
2 - Consumer goods and serv.						-0.001 (-0.28)			-0.000 (-0.09)	-0.000 (-0.18)	0.002 (0.42)	0.000 (0.08)
3 – Financials						0.000 (0.01)			-0.001 (-0.11)	0.000 (0.09)	-0.000 (-0.22)	0.000 (0.01)
4 - Utilities, health, Oil and Gas						-0.004 (-0.65)			-0.004 (-0.72)	-0.005 (-0.76)	-0.004 (-0.75)	-0.005 (-0.96)

*****, ******, ******* denote significance at the 0.10, 0.05, and 0.01 level, respectively (two-tailed)

Table 8.5 (continue): Random-effects tobit regression Model 2: Factors influencing managerial decisions on the measurement of goodwill impairment

	Sign	The results of coefficients (Z statistics) for Model 2										
		(a)(i)	(a)(ii)	(b)	(c)	(d)	(e)	(f)	(g)(i)	(g)(ii)	(h)(i)	(h)(ii)
5 – Tech. and Telecom.						0.001 (0.12)			0.000 (0.07)	0.002 (0.29)	0.003 (0.63)	0.003 (0.69)
YEND - Year 1 (H18)	?											
- Year 2		0.000 (0.05)	0.001 (0.33)	0.003 (0.72)	0.001 (0.22)	0.001 (0.27)	0.001 (0.27)	0.000 (0.14)	0.003 (0.66)	0.003 (0.68)	0.003 (0.95)	0.002 (0.75)
- Year 3		0.000 (0.01)	-0.000 (-0.08)	0.003 (0.52)	-0.000 (-0.00)	0.000 (0.09)	0.000 (0.13)	-0.001 (-0.17)	0.002 (0.31)	0.001 (0.21)	0.001 (0.40)	-0.000 (-0.13)
ADD (H19)	+	-0.004 (-1.08)	-0.001 (-0.28)	-0.003 (-0.64)	-0.001 (-0.41)	-0.001 (-0.40)	-0.001 (-0.21)	-0.002 (-0.52)	-0.003 (-0.56)	-0.004 (-0.85)	-0.007 (-2.23)**	-0.008 (-2.67)***
Log likelihood		225.45	186.86	146.15	185.54	186.66	188.79	185.19	156.73	164.72	378.85	354.86
Wald chi-square		36.43***	33.63**	23.09	27.96**	28.20*	31.52***	24.93**	24.71	24.01	101.49***	78.91***

*****, ******, ******* denote significance at the 0.10, 0.05, and 0.01 level, respectively (two-tailed)

8.5.2.1 Sensitivity analyses – Change in CEO

$\Delta CEO_{Current/prior}$ is defined as a change in CEO which occurs in the previous financial year or the current financial year (see Appendix 1 of the thesis). Sensitivity analyses for the $\Delta CEO_{Current/prior}$ are conducted in order to assess whether empirical result of the change in CEO would be sensitive to: (i) the specification of the CEO change year, and (ii) to an additional definition of CEO change as a change in one of the top five executive positions (hereafter referred to as top management) - i.e. CEO, President, Chief Executive, Managing Director, or Chairman, occurring in the previous financial year or the current financial year (see Section 5.6.1). Accordingly, five additional definitions of change in CEO are tested. These are:

(i) Change in CEO occurring in the previous financial year (ΔCEO_{Prior}),
(ii) Change in CEO occurring in the current financial year($\Delta CEO_{Current}$),
(iii) Change in top management occurring in the previous financial year or the current financial year ($\Delta TopMgt_{Curent/prior}$),
(iv) Change in top management occurring in the previous financial year($\Delta TopMgt_{Prior}$), and
(v) Change in top management occurring in the current financial year ($\Delta TopMgt_{Curent}$).

The results of the sensitivity analyses for $\Delta CEO_{Current}$, $\Delta TopMgt_{Curent/prior}$, and $\Delta TopMgt_{Curent}$ tested in Models 2(h)(i) and (ii) (see Appendix 8.5) are similar to $\Delta CEO_{Current/prior}$ as reported in Table 8.5. That is, these variables are found statistically significant, in a positive direction, in the measurement of goodwill impairment. The results for all other variables in the models are almost[63] similar to those reported prior to the sensitivity analyses (see Appendix 8.5). Variables which are found statistically significant (non-significant) in Models 1 and 2 are found statistically significant (non-significant) in the sensitivity analyses.

[63] There are few variables where the level of significant change. For example, the level of significant for debt ratio change from p-value less than 0.10 to p-value less than 0.05 (in Model 2(h)(i)-TopMgtprior).

When the change in CEO or top management is defined as a change occurring in the previous financial year (i.e. ΔCEO_{Prior} , and $\Delta TopMgt_{Prior}$), these variables are found non-significant in the measurement of goodwill impairment (see Appendix 8.5).

The results of the sensitivity analyses discussed above suggest that the incoming CEO's or top managers took the goodwill write-off soon after joining their companies; they have not waited a year before deciding to report the write-off.

8.5.2.2 Sensitivity analyses – Managerial ownership

The sensitivity analysis for managerial ownership is performed into two ways.

Firstly, the sensitivity analysis for the linear relationship between managerial ownership and the dependent variable is conducted using large data, i.e. in Model 2(h)(i) and Model 2(h)(ii). The results (see Appendix 8.6 in the last two columns) reveal that $MANOWN_{Linear}$ is found non-significant in Model 2(h)(i) and marginally significant (at p-value less than 0.10) in Model 2(h)(ii). Thus, the result of the sensitivity analysis confirmed the result of Model 2(a)(i) (see Table 8.5), that is, in a linear relationship, managerial ownership plays less or no influential role in explaining the measurement of goodwill impairment by Malaysian listed companies.

Secondly, for the non-linear relationship between managerial ownership and the dependent variable, the sensitivity analyses are performed by re-defining the cut-off points from 25% to 20% and from 25% to 30% (see Section 5.7.1). In both cut-off points, the inferences on managerial ownership, as well as other variables, are consistent with those in the primary analysis as shown in Table 8.5. Thus, the sensitivity analysis (see Appendix 8.6 in the first four columns) indicates that the result of the managerial ownership is not sensitive to the specification of the cut-off point from 25% to 20% and from 25% to 30%.

8.5.2.3 Sensitivity analysis – Prior year earnings

The sensitivity analysis for prior year earnings ($EARNINGS_{Prior}$) is performed by constructing a new variable, that is, prior year pre-write-off earnings ($EARNINGS_{PreGWILprior}$), which is $EARNINGS_{prior}$ after adjusting for (adding back) goodwill write-off. The results of the sensitivity analysis for $EARNINGS_{PreGWILprior}$ tested in Models 1, 2(a)(i) to 2(d) reveal that the new variable is statistically significant (at p-value less than 0.01) in five of the six models tested (see Appendix 8.7). Thus, the result of the sensitivity indicates that compared to $EARNINGS_{prior}$ which is found marginally significant (at p-value less than 0.10) (see Table 8.4), $EARNINGS_{PreGWILprior}$ is more appropriately employed in the regression model, explaining the measurement of goodwill impairment by Malaysian listed companies.

Next, Sections 8.6 to 8.10 discuss the regression results for each of the research questions.

8.6 Research Question 4: Economic factors

In the studies of asset write-off (including goodwill impairment losses), economic factors refer to factors which may affect the underlying performance of companies' assets (inclusive of goodwill) (Riedl, 2004: 830) (see Section 5.4). Seven variables are employed in the present measurement study to test the influence of the economic factors on the measurement of goodwill impairment by Malaysian listed companies. These are: Log(ΔSales+1), ΔOCF, BTM, GWB, $EARNINGS_{prior}$, $EARNINGS_{PreGWILCurrent}$, and $\Delta EARNINGS_{preGWIL}$ (see Table 8.5).

Of the seven variables tested, two variables, i.e., $EARNINGS_{PreGWILcurrent}$ and $\Delta EARNINGS_{preGWIL}$ are found statistically significant in nearly all of the models. In addition, $EARNINGS_{prior}$ is found statistically significant in Model 1 and Model 2(a)(i) and (ii). Other variables are found non-significant in the measurement of goodwill impairment by Malaysian listed companies. The results suggest that the main economic factors driving the measurement of goodwill

impairment are pre-write-off earnings, specifically, current year pre-write-off earnings ($EARNINGS_{PreGWILcurrent}$) and change in pre-write-off earnings from prior year to current year ($\Delta EARNINGS_{preGWIL}$). Next, Sections 8.6.1 to 8.6.5 provide detailed discussion of these results.

8.6.1 Change in sales [Log(∆Sales+1)]

Log(ΔSales+1) is found non-significant in Model 1 (see Table 8.4) and Model 2 (see Table 8.5). Thus, the null hypothesis for $H_{1\text{-}Null}$ (see Section 5.4.1) cannot be rejected. The results in Models 1 and 2 are consistent with Riedl (2004: 843 for post-SFAS121), Guler (2007: 73), and AbuGhazaleh et al. (2011: 190). This result implies that managers do not take into account the decline in the sales performance (from prior year to current year) in the measurement of goodwill impairment losses by Malaysian listed companies.

8.6.2 Companies' pre-write-off earnings

Three variables are employed to measure company earnings, namely, prior year earnings (see Section 8.6.2.1), current year pre-write-off earnings (see Section 8.6.2.2), and change in pre-write-off earnings from prior year to current year (see Section 8.6.2.3).

8.6.2.1 Prior year earnings ($EARNINGS_{Prior}$)

Prior year earnings (i.e. $EARNINGS_{Prior}$) is found marginally significant (at p-value less than 0.10) in Model 1 and Model 2(a)(ii), in a negative direction as predicted, in explaining the measurement of goodwill impairment (see Tables 8.4 and 8.5). This result is consistent with AbuGhazaleh et al. (2011: 190) who documented a marginally significant result (at p-value less than 0.10) for the $EARNINGS_{Prior}$. In Model 2(a)(i), the variable is found statistically significant (at p-value less than 0.05) as predicted. The marginally significant and non-significant results of the variable in the majority of the models tested are because the prior year earnings (i.e. $EARNINGS_{Prior}$) is applied without adjusting for (adding back) goodwill impairment losses. This is evidenced in the sensitivity analysis for $EARNINGS_{prior}$ where the variable is redefined as

$EARNINGS_{PreGWILprior}$ (prior year pre-write-off earnings) and is found strongly significant (at p-value less than 0.01) as predicted in five of the six models tested (see Section 8.5.2.3 and Appendix 8.7).

The statistically significant result for prior year pre-write-off earnings, in a negative direction, suggests that the poorer the prior year pre-write-off earnings, the greater the magnitude of goodwill impairment losses reported by Malaysian listed companies. By reporting goodwill impairment losses when the prior year pre-write-off earnings are low, managers are reflecting company economic factors at a firm-level. In this case, it indicates no accounting choice that is contrary to the economic factors, exercised by Malaysian listed companies.

8.6.2.2 Current year pre-write-off earnings ($EARNINGS_{PreGWILcurrent}$)

Current year pre-write-off earnings ($EARNINGS_{PreGWILcurrent}$) is found statistically significant in two of the three models tested, in a negative direction as predicted (see Table 8.5). This result provides support for the alternative hypothesis set in $H_{2B\text{-}Alternative1}$ (see Section 5.4.2.2). The results suggest that the poorer the current year pre-write-off earnings, the greater the magnitude of goodwill impairment losses reported by Malaysian listed companies. By reporting goodwill impairment losses when the current year pre-write-off earnings are low, managers are reflecting their expectations of future performance of the asset (based on past performance) at a firm-level. In this case, it indicates no accounting choice that is contrary to the expected impact of economic factors, exercised by Malaysian listed companies.

Thus far, no prior studies have examined the current year pre-write-off earnings. Hence, comparison of the finding of the present study with prior studies cannot be made.

8.6.2.3 Change in pre-write-off earnings ($\Delta EARNINGS_{preGWIL}$)

In separate random-effects tobit regression models, change in pre-write-off earnings from prior year to current year ($\Delta EARNINGS_{preGWIL}$) is also statistically significant in explaining the measurement of goodwill impairment in all of the models tested (see Table 8.5). However, the variable is found statistically significant in a positive direction, which is contrary to the prediction for the economic factors set in the alternative hypothesis $H_{3\text{-}Alternative1}$. The result suggests that the poorer the company's performance, which is reflected as a negative value for $\Delta EARNINGS_{preGWIL}$, the lower the magnitude of goodwill impairment losses reported. In this case, it is possible that the managers are attempting to avoid reporting goodwill impairment losses, or reporting a small magnitude of goodwill impairment losses, hoping that the company's performance will improve in the future. Accordingly, managers' decisions in reporting goodwill impairment losses do not reflect their expectations of the future performance of the asset at a firm-level (based on past performance), which may point to the possibility of accounting choices being exercised. This result is inconsistent with Riedl (2004: 843) and Guler (2007: 73). Riedl (2004: 843) documented a non-significance of $\Delta EARNINGS_{preGWIL}$ and the asset write-offs post-SFAS121. Meanwhile, Guler (2007: 73) reported $\Delta EARNINGS_{preGWIL}$ as statistically significant in a negative direction in the measurement of goodwill impairment.

The two conflicting results for pre-write-off earnings as discussed above, i.e. - (i) pre-write-off earnings, measured at one specific point in time (i.e. $EARNINGS_{PreGWILprior}$, and $EARNINGS_{PreGWILcurrent}$) and (ii) the change in pre-write-off earnings from prior year to current year (i.e. $\Delta EARNINGS_{preGWIL}$) will be discussed further in Section 8.12.1 by positioning them in context of the overall results of the measurement study.

8.6.3 Change in operating cash flows (ΔOCF)

Consistent with Riedl (2004: 843), who examined asset write-offs, in the present study, ΔOCF is non-significant in explaining the measurement of

goodwill impairment (see Tables 8.4 and 8.5). Thus, the null hypothesis for $H_{4\text{-}Null}$ (see Section 5.4.3) cannot be rejected. This result implies that changes in operating cash flows do not play an influential role in the measurement of goodwill impairment by Malaysian listed companies.

8.6.4 Book-to-market ratio (BTM)

Consistent with Francis et al. (1996: 126), BTM is found non-significant in all of the models tested (see Tables 8.4 and 8.5). Thus, the null hypothesis for $H_{5\text{-}Null}$ (see Section 5.4.4) cannot be rejected. However, this result is in contrast with the results of Beatty and Weber (2006: 281), Guler (2007: 73) and AbuGhazaleh et al. (2011: 190) who documented statistically significant results for BTM in their analyses of the measurement of goodwill impairment. The non-significance of BTM implies that the intensity of expected economic impairment of goodwill has no impact on the measurement of goodwill impairment. Possibly, this occurs when companies' market values fall below the book values of their net assets due to a short-term volatility in the stock market.

8.6.5 Relative size of goodwill balance (GWB)

Consistent with AbuGhazaleh et al. (2011: 190), relative size of goodwill balance (GWB) is found non-significant in all of the models tested in the present study (see Tables 8.4 and 8.5). Thus, the null hypothesis for $H_{6\text{-}Null}$ (see Section 5.4.5) cannot be rejected. The non-significance of GWB implies that the exposure of goodwill balance, measured in terms of the amount of goodwill balance in their asset composition, has no influence on the measurement of goodwill impairment.

8.7 Research Question 5: Contracting perspective (DEBTRATIO)

The contracting perspective, in particular, the debt hypothesis is tested using debt ratio (see Section 5.5). The variable is found marginally significant in Model 2(h)(i) and non-significant in the remaining models tested (see Tables

8.4 and 8.5). Thus, the null hypothesis for $H_{7\text{-Null}}$ (see Section 5.5) cannot be rejected. Accordingly, the present study could not provide support to the contracting perspective in explaining the measurement of goodwill impairment by Malaysian listed companies. This result is consistent with Guler (2007: 73) and AbuGhazaleh et al. (2011: 190). The non-significance of DEBTRATIO found in the majority of the models is possibly because as noted by Lys (1984), Fields et al., (2001) and Dichev and Skinner (2002), leverage (i.e. DEBTRATIO) does not fully capture the default risk of debt (see Section 2.3.1.2).

8.8 Research Question 6: Opportunistic behaviour perspective

Four variables are employed to test an opportunistic behaviour perspective, namely, change in CEO (see Section 8.8.1), CEO tenure (see Section 8.8.2), big bath reporting (see Section 8.8.3), and earnings smoothing (see Section 8.8.4).

8.8.1 Change in CEO ($\Delta CEO_{Current/prior}$)

Consistent with Lapointe-Antunes et al. (2008: 48), Zang (2008: 53), and AbuGhazaleh et al. (2011: 190), change in CEO ($\Delta CEO_{Current/prior}$) is found statistically significant in a positive direction in all of the models tested in the present study (see Tables 8.4 and 8.5). This result provides support for the alternative hypothesis set in $H_{8\text{-Alternative}}$ (see Section 5.6.1), suggesting that incoming CEOs reported larger magnitude of goodwill impairment losses than continuing CEOs. The sensitivity analyses performed on $\Delta CEO_{Current/prior}$ provide additional evidence that the incoming CEOs took the goodwill write-off as soon as joining the companies (i.e. in the current year) instead of waiting for a year (see Section 8.5.2.1 for the discussion of the sensitivity analyses).

The conclusion reached is that, to the extent that the economic factors control for the underlying performance of the companies, change in CEO may capture additional incentives for the incoming CEOs to expedite future charges in the hope of improving investors' perceptions of the companies'

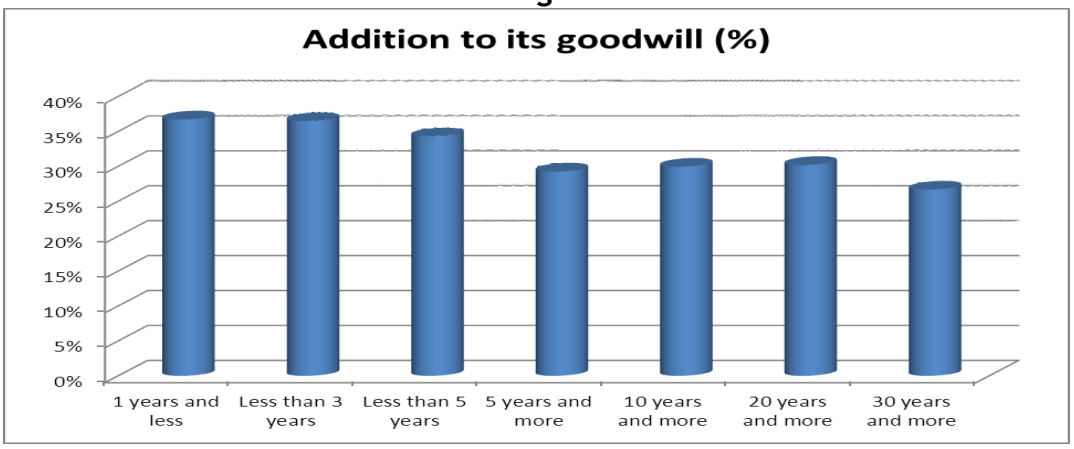
future performances. Accordingly, similar to prior studies (i.e. Elliott and Shaw, 1988; Francis et al., 1996; Riedl, 2004), this result provides support to an opportunistic behaviour perspective.

8.8.2 CEO tenure (CEOTENURE)

CEO tenure, a variable proxying for whether a CEO is responsible in business acquisitions leading to an existence of goodwill (Beatty and Weber, 2006: 266), is non-significant in all of the subcategories of Models 2 tested [except in Model 2(h)(i) where the variable is found marginally significant] (see Table 8.5). Thus, the null hypothesis for $H_{9\text{-Null}}$ (see Section 5.6.2) cannot be rejected. This result could not provide support to the opportunistic behaviour perspective.

The non-significance of CEOTENURE, which is inconsistent with Beatty and Weber (2006: 280) and Ramanna and Watts (2012), suggests that for a large number of Malaysian listed companies, the number of years a CEO held a position is an indirect proxy for whether the CEO was responsible with an existence of goodwill. This result could partly be explained by looking at the relationship between CEOTENURE and the ratio of the number of companies which have newly acquired goodwill (i.e. ADD[64] in H19) (see Figure 8.2).

Figure 8.2: The relationship between CEO tenure and companies' addition to their goodwill



[64] A dichotomous variable, equal to one if company *i* has additions to its goodwill due to acquisitions during the financial year, and zero when there is no addition (see Section 5.9.4).

Figure 8.2 shows that companies that have CEOs with short tenure (e.g. below five years) have more addition to its goodwill than companies that have CEOs with longer tenure (e.g. five years and more). This means that CEOs with short tenure acquired more goodwill in the current year compared to CEOs with long tenure. Ramanna and Watts (2012) argues that CEOs with longer tenure are less likely to take goodwill impairment losses in order to shield their reputations from the implications of the write-offs. The figure demonstrates that this argument could also apply to CEOs with short tenure. Hence, in the present study, the argument that a CEO who acquired goodwill is reluctant to impair it, can apply to both CEOs with short tenure and CEOs with long tenure.

8.8.3 Big bath reporting (BATH)

BATH is found statistically significant, in a negative direction, in Model 1 (see Table 8.4) and in nearly all of the subcategories of Models 2 tested (see Table 8.5). This result provides support for the alternative hypothesis set in $H_{10\text{-}Alternative}$ (see Section 5.6.3), suggesting that the stronger the downward trend in companies' change in pre-write-off earnings from prior year to current year, the higher the magnitude of goodwill impairment losses reported. This finding is consistent with AbuGhazaleh et al. (2011: 190) and Riedl (2004: 843).

To the extent that change in pre-write-off earnings ($\Delta EARNINGS_{preGWIL}$- one of the variables testing the economic factors, see Section 8.6.2.3) controls for the performance of the underlying economic values of the assets, the statistically significant negative association between BATH and reporting goodwill impairment losses found in the present study may capture an incremental effect relating to the big bath reporting incentives. Thereby, similar to Riedl (2004: 833), this finding provides supports to the opportunistic behaviour perspective.

It is noted that there is an alternative interpretation of this result provided by prior study (i.e. AbuGhazaleh et al., 2011: 194) (see Section 5.6.3,). That is, the larger negative pre-write-off earnings surprise could also imply that

managers are taking a big bath to reveal private information about the company's true value (AbuGhazaleh et al., 2011: 194). However, the tests conducted in this thesis do not distinguish between these two interpretations.

8.8.4 Earnings smoothing (SMOOTH)

SMOOTH is marginally significant (at p-value less than 0.10) in Model 1 (see Table 8.4) and statistically significant in Models 2 (e), (g)(i), and (h)(i) (see Table 8.5). This result provides support for the alternative hypothesis set in $H_{11\text{-Alternative}}$ (see Section 5.6.4). The significantly positive association between SMOOTH and the magnitude of goodwill impairment losses suggests that the stronger the upward trend in companies' earnings (measured in term of above the median of non-zero positive values in the change in pre write-off earnings, and zero otherwise), the higher the magnitude of goodwill impairment losses reported. Accordingly, this finding provides support to the smoothing hypothesis, which is consistent with the findings reported by Francis et al. (1996: 125)[65], Guler (2007: 73), and AbuGhazaleh et al. (2011: 190). Hence, the result provides support to an opportunistic behaviour perspective, suggesting that Malaysian listed companies make use of goodwill impairment losses as a tool to smooth earnings.

8.9 Research Question 7: Ownership structures

Two variables, i.e. managerial ownership, and outside ownership concentration are employed to test the influence of companies' ownership structures on the measurement of goodwill impairment. The descriptive analysis reported in Appendix 8.2 shows that the ownership structures of

[65] The definition of SMOOTH provided by Francis et al. (1996: 126) and Guler (2007: 22) differ from Riedl (2004: 843), AbuGhazaleh et al. (2011: 190) and this thesis. Francis et al. (1996: 126) defines SMOOTH as 'operating earnings in the current year less operating earnings in the previous year]/total assets at the end of year-1'. In this thesis, SMOOTH is defined in a similar way to Riedl (2004: 843) and AbuGhazaleh et al. (2011: 190) as 'change in company i's pre-write-off earnings from t-1 to t divided by total assets at the end of t-1, when this change is above the median of non-zero positive values of this variable, and zero otherwise'. Hence, SMOOTH in the present study focused on companies which are more likely to have an incentive to engage in earnings smoothing.

Malaysian listed companies which implement FRS 3 is concentrated, in that the five largest outside shareholders (OUTCON) hold on average 46.8% of the companies' shares. Sections 8.9.1 and 8.9.2 discuss the result of these variables.

8.9.1 Managerial ownership ($MANOWN_{Linear}$ and $MANOWN_{Non\text{-}monotonic}$)

The influence of managerial ownership on the measurement of goodwill impairment is tested in two ways – linear relationship and non-monotonic relationship (see Section 5.7.1). For the linear relationship, the result shows that managerial ownership is non-significant in Model 2(a)(i) (see Table 8.5) and Model 2(h)(i) (see Appendix 8.6). It is marginally significant (at p-value less than 0.10) in model 2(h)(ii) (see Appendix 8.6). This finding suggests that in a linear relationship, managerial ownership plays less or no influential role in the measurement of goodwill impairment by Malaysian listed companies.

The non-monotonic relationship between managerial ownership and the measurement of goodwill impairment is tested using three variables which reflect three cut-off points. These are: (i) MANOWN1 when the managerial ownership is between 0% and less than 5%, (ii) MANOWN2 when the managerial ownership is between 5% to less than 25%, and (iii) MANOWN3 when the managerial ownership is from 25% onwards (see Section 5.7.1). The results show that at the outset, in Model 2(a)(ii), managerial ownership (i.e. MANOWN1, MANOWN2, and MANOWN3) is found non-significant in the measurement of goodwill impairment by Malaysian listed companies. However, in Model 2(h)(i) and Model 2(h)(ii), with the exclusion of variables testing the discretion, such as CGUs and discount rates that suffer from high frequency of missing values, MANOWN1 is found statistically significant (at p-value less than 0.05) in a negative direction, in explaining the measurement of goodwill impairment. MANOWN2 and MANOWN3 independently are positively associated with the magnitude of goodwill impairment losses. However, they are non-significant in the measurement of goodwill impairment. These results suggest that as the managerial ownership increases from 0% to less than 5% (in MANOWN1), the magnitude of goodwill impairment

losses reduces. Nevertheless, when the managerial ownership is at 5% and beyond (i.e. as in MANOWN2 or MANOWN3), managerial ownership has no influential role in the measurement of goodwill impairment. The sensitivity analysis carried out by altering the cut-off points from 25% to 20% and from 25% to 30% (see Section 8.5.2.2 and Appendix 8.6) shows that the result of the managerial ownership remained similar, in that, MANOWN1 is found statistically significant in a negative direction while MANOWN2 and MANOWN3, individually, is non-significant in the measurement of goodwill impairment by Malaysian listed companies.

Carlson and Bathala (1997: 191), in their study of managerial ownership and income smoothing, explained that in companies where managers hold less or no shares (i.e. management-controlled companies), the managers are more likely to present the companies' operating results in the most favourable manner as a job preserving strategy. Applying this explanation to the result discussed above, it makes sense to observe a negative association between managerial ownership (MANOWN1) and the magnitude of goodwill impairment losses by Malaysian listed companies when the managerial ownership from is 0% to less than 5%. This is because reporting goodwill impairment losses reduce companies' earnings. Therefore, in reporting goodwill impairment losses, the managers might not be able to present the operating result of the companies in the best possible manner to the shareholders. Hence, as the managerial ownership increases, lower magnitude of goodwill impairment losses are reported by companies in which the managers hold between 0% and less than 5% of the shares. Thus, the result for MANOWN1 provides support to the incentives effect (see Section 5.7.1), in that, as managerial ownership increases from 0% to less than 5%, managers' incentives become closely aligned with shareholders.

8.9.2 Outside ownership concentration (OUTCON)

OUTCON is found statistically significant, in a negative direction, in Model 2(h)(ii) and marginally significant in (at p-value less than 0.10) in Models 2(a)(i) and (h)(i) (see Table 8.5). This finding suggests that as the level of

outside ownership concentration increases, less magnitude of goodwill impairment losses is reported. Prior studies (e.g. Niehaus, 1989: 271-272; Astami and Tower, 2006: 8) associate an increase in outside ownership concentration (OUTCON) with an increase in shareholders monitoring of the management (see Section 5.7.2). Following this explanation, the result of the present study suggests that as the level of outside ownership concentration increases, indicating an increase in outside monitoring, lower goodwill impairment losses are reported.

8.10 Research Question 8: Discretion available in performing an impairment test of goodwill

None of the variables testing the discretion, including CGUs (see Section 8.10.1) and discount rates (see Section 8.10.2) employed in performing impairment test of goodwill is significant in explaining the measurement of goodwill impairment by Malaysian listed companies.

8.10.1 Cash-generating-units containing goodwill (CGU_{01} and $CGU_{Continuous}$)

Two variables, namely, CGU_{01} and $CGU_{Continuous}$ are employed in a separate model to test the influence of managerial discretion with regard to CGUs on the measurement of goodwill impairment – (see Section 5.8.1). None of these variables is found statistically significant in explaining the measurement of goodwill impairment by Malaysian listed companies. Accordingly, the null hypotheses set in $H_{14A\text{-}Null}$ for CGU_{01} and $H_{14B\text{-}Null}$ for $CGU_{Continuous}$ cannot be rejected. For $CGU_{01,}$ the result is consistent with AbuGhazaleh et al. (2011: 190) who also found the variable to be non-significant in the measurement of goodwill impairment by UK listed companies. Thus, the result suggests that the number of CGUs plays no influential role in the measurement of goodwill impairment.

8.10.2 Discount rates (DISCRATE, DISCMULTIPLE, and $DISCRATE_{Disclosed/Not}$)

Three variables are employed to test the influence of managerial discretion with regard to discount rates on the measurement of goodwill impairment by Malaysian listed companies. These are DISCRATE, DISCMULTIPLE, and $DISCRATE_{Disclosed/Not}$ (see Section 5.8.2). $DISCRATE_{Disclosed/Not}$ is excluded from the regression analysis because of the multicollinearity between the variable and DISCRATE. Similar to managerial discretion relating to CGUs, all of the variables testing discount rates are found non-significant in explaining the measurement of goodwill impairment. Therefore, the null hypothesis for $H_{15A\text{-}Null}$ (for DISCRATE), and $H_{15B\text{-}Null}$ (for DISCMULTIPLE) cannot be rejected. Thus far no prior studies have explored the application of discount rates in the measurement of goodwill impairment (see Section 5.8.2). Accordingly, the result of the present study cannot be compared with prior studies.

The non-significance of the discount rates suggests that there is little variation in the discount rate applied by companies. In estimating the recoverable amount of CGUs containing goodwill, managers could reflect their expectation concerning possible variation in the recoverable amount, in particular, the value-in-use, either through adjustment to the forecasted cash flow or adjusted to the discount rate (FRS 136, paragraph 30-32) (see Section 4.4.2). Possibly, in the case of Malaysian listed companies examined in the present chapter, the expectation about possible variation in the value-in-use is reflected in the forecasted cash flow rather than the discount rates. Hence, the application of discount rates has no influence on the measurement of goodwill impairment.

8.11 Company-specific factors (control variables)

Four variables are included in the regression model in controlling for company-specific factors. These are SIZE (see Section 8.11.1), INDUSTRYG5 (see Section 8.11.2), YEND (see Section 8.11.3), and ADD (see Section 8.11.4).

8.11.1 Size of company (SIZE)

SIZE is found statistically significant in a positive direction, in the majority of the models tested (see Tables 8.4 and 8.5). This result provides support for the alternative hypothesis set in $H_{16\text{-Alternative}}$ (see Section 5.9.1), suggesting that as company size increases, larger magnitude of goodwill impairment losses is reported. This finding is consistent with Francis et al. (1996: 125-126), Beatty and Weber (2006: 281), Guler (2007: 73), and Zang (2008: 52). However, it differs with AbuGhazaleh et al. (2011: 190) possibly because their study focused on the top 500 UK listed companies, where, there is not much variation of SIZE resulting in the variable being found to be non-significant.

8.11.2 Types of industry (INDUSTRYG5)

Consistent with Beatty and Weber (2006: 283), and AbuGhazaleh et al. (2011: 195), types of industry (INDUSTRYG5), which is an industry classification based on five groups (see Appendix 8.3) is found non-significant in all of the models tested (see Table 8.5). Thus, the null hypothesis for $H_{17\text{-Null}}$ (see Section 5.9.2) cannot be rejected, suggesting that types of industry play no influential role in the measurement of goodwill impairment by Malaysian listed companies.

8.11.3 Financial year-end (YEND)

YEND, a dummy variable created to control for the three-year period of study, is found non-significant in all of the models tested (see Tables 8.4 and 8.5). This result is consistent with AbuGhazaleh et al. (2011: 190) who reported non-significant results for their year dummy. Thus, the null hypothesis for $H_{18\text{-Null}}$ (see Section 5.9.3) cannot be rejected. This finding suggests that different financial year-ends have no influence on the measurement of goodwill impairment by Malaysian listed companies.

8.11.4 Addition to goodwill (ADD)

ADD, a dummy variable capturing an addition to company goodwill, is found non-significant in Model 1 (see Table 8.4), and Model 2 (see Table 8.5). In Model 2(h)(i) and (ii), the variable is found statistically significant, in a negative direction, which is contrary to the prediction set in $H_{19\text{-Alternative}}$ (see Section 5.9.4). This is possibly because Malaysian listed companies do not impair their newly acquired goodwill. This result is inconsistent with the finding of AbuGhazaleh et al. (2011: 190) who documented ADD to be statistically significant, but in a positive direction.

8.12 Overall results of the measurement study

Overall, the results of the random-effects tobit regression Models 1 and 2 show that after controlling for company-specific factors, three main factors play influential roles in the measurement of goodwill impairment by Malaysian listed companies during the first three years of the FRS 3 implementation. These factors are: economic factors (in particular, companies' pre-write-off earnings), an opportunistic behaviour perspective (i.e. BATH, SMOOTH, and $\Delta CEO_{Current/prior}$), and ownership structures (i.e. outside ownership concentration, and managerial ownership). The remaining two factors, namely, contracting perspective, and discretion, such as CGUs and discount rates available to managers in performing impairment test of goodwill are found non-significant in the measurement of goodwill impairment by Malaysian listed companies.

Two points are worth further discussion. These are conflicting results for types of pre-write-off earnings employed (see Section 8.12.1), and the interpretation of the findings of the measurement study using the self-constructed disclosure framework (see Section 8.12.2).

8.12.1 Conflicting results for two different measures of pre-write-off earnings

For the economic factors, conflicting results are obtained depending on the measures of pre-write-off earnings that are selected in a particular model (see Section 8.6.2.3). When regression models employ company earnings at one specific point in time (i.e. prior year earnings in Section 8.6.2.1, prior year pre-write-off earnings in Appendix 8.7, and current year pre-write-off earnings in Section 8.6.2.2), the findings show for example, that as the current year pre-write-off earnings increase, the magnitude of goodwill impairment losses reported decreases. The results for these variables imply that managers are reporting goodwill impairment losses to reflect the underlying economic values of the company. On the other hand, when regression models employ a change in pre-write-off earnings from prior year to current year (i.e. $\Delta EARNINGS_{preGWIL}$ in Section 8.6.2.3), the positive association between the variable and the magnitude of goodwill impairment losses seems to point to the possibility of companies exercising accounting choices related to goodwill impairment. The result for change in pre-write-off earnings seems to be in line with that of the opportunistic behaviour perspective. This is because for the opportunistic behaviour perspective, regardless of the models employed, a change in CEO ($\Delta CEO_{Current/prior}$) (see Section 8.8.1), big bath reporting (BATH) (see Section 8.8.3), and earnings smoothing (SMOOTH) (see Section 8.8.4) provide consistent results supporting the perspective, suggesting that there is a possibility for companies exercising the accounting choice.

The results discussed in the above paragraph seem rather perplexing, as they suggest that in one random-effects tobit regression model, the economic factors (in particular earnings which is measured at one specific point in time) and the opportunistic behaviour perspective (i.e. change in CEO, BATH, and SMOOTH) work in an opposite direction in explaining the measurement of goodwill impairment by Malaysian listed companies. To further understand the two conflicting results, detailed investigation of 30 companies has been carried out. These 30 companies comprise three groups: (i) 10 companies with the highest change in pre-write-off earnings (i.e. $\Delta EARNINGS_{preGWIL}$), (ii) 10

companies with the lowest change in pre-write-off earnings (i.e. $\Delta EARNINGS_{preGWIL}$), and (iii) 10 companies with a change in pre-write-off earnings (i.e. $\Delta EARNINGS_{preGWIL}$) which falls in the middle.

Detailed investigation of these three groups of company, together with their current year pre-write-off earnings, earnings smoothing, and big bath reporting, reveals that the number of companies which reported goodwill impairment losses is greater for the two groups of company which have the highest and the lowest change in pre-write-off earnings rather than for the middle group. This result suggests that companies are behaving differently with regard to the relative magnitude of goodwill impairment losses reported depending on their level of pre-write-off earnings. As the companies' current year pre-write-off earnings increase, lower relative magnitude of goodwill impairment losses reported. However, as the gap between the current year pre-write-off earnings and the prior year pre-write-off earnings is large (leading to companies' engaging in big bath reporting or earnings smoothing), higher relative magnitude of goodwill impairment losses is reported. This finding corroborates the finding of McNichols and Wilson (1988: 4) who found that companies with extreme earnings (either unusually high or low[66]) chose an income-decreasing accounting choice (in their case the discretionary component of the provision for bad-debts). Therefore, in the context of the present measurement study, in one random-effects tobit regression model, it is possible that an opportunistic behaviour perspective and economic factors work in opposite directions, as companies are behaving in a different way depending on their level of pre-write-off earnings.

8.12.2 Interpretation of the findings of the measurement study using the self-constructed disclosure framework

The second point for discussion is that in an attempt to further understand the result of the measurement study discussed in this chapter, the researcher has re-applied the disclosure framework which has been constructed in the

[66] The definition of extreme earnings provided by McNichols and Wilson (1988: 13) is the comparison of the current year with prior year earnings which is deflated by total assets.

disclosure study (in Chapter 7) to the result of the measurement study (in Chapter 8). Specifically, from the result of the measurement study, the researcher has selected 10 companies found to be engaging in earnings smoothing, with no change in their CEOs, and where the management hold the top 10 highest proportion of shares (i.e. ranging from 31.78% to 51.70%). The aim here is to understand why continuing CEOs, or top managers holding a large proportion of company shares, would reduce the goodwill balance (by reporting goodwill impairment losses) merely for the purposes of earnings smoothing.

Using the self-constructed disclosure framework (discussed in Chapter 7 – see e.g. Table 7.3 in Section 7.3.1), the goodwill data, segment result, financial performance, the market capitalisation indication, reasons for reporting goodwill impairment loss disclosed in the Notes to the Financial Statement, and audit report concerning goodwill of these companies are scrutinised. Detailed investigation reveals that of the 10 companies selected, four[67] companies are found to report goodwill impairment losses because of the characteristic of the goodwill. Two companies impaired goodwill which arose from an apparent overpayment made at the time of acquisition (see Section 7.3.2 for discussion of the apparent overpayment) and another two companies impaired goodwill immediately upon acquisition. In the case of these four companies, these results suggest that the managers have already decided on the amount of goodwill impairment losses to be reported. When changes in pre-write-off earnings are large[68], the managers take the opportunity to eliminate the goodwill. Although the investigation discussed above involved a small number of companies (10 companies), the result helps contextualise one of the motives of Malaysian listed companies for engaging in earnings smoothing by reporting goodwill impairment losses.

[67] For the remaining six companies, their reasons could not be identified by the researcher.

[68] Earnings smoothing is defined as a change in pre-write-off earnings from prior period to current period, divided by total assets at the end of prior period, when this change is above the median of non-zero positive value for the variable, and zero otherwise.

8.13 Summary and conclusions

This chapter has analysed factors influencing managerial decisions on the measurement of goodwill impairment by Malaysian listed companies in the first three years of the implementation of FRS 3 *Business Combinations*. The factors are grouped into economic factors (see Section 8.6), contracting perspective (see Section 8.7), opportunistic behaviour perspective (see Section 8.8), ownership structures (see Section 8.9), discretion available to managers in performing an impairment test of goodwill (see Section 8.10), and company-specific factors (see Section 8.11). In analysing these factors, two main random-effects tobit regression models have been constructed, i.e. Model 1, and Models 2(a)(i) to 2(h)(ii) (see Section 8.3.3).

The analysis of the measurement of goodwill impairment by Malaysian listed companies began with Model 1, by testing as closely as possible the variables tested by AbuGhazaleh et al. (2011) (exceptions include corporate governance variables and a cross listing variable) (see Section 8.3.3). The comparison of results reported in Model 1 of the present chapter with the study of UK listed companies as undertaken by AbuGhazaleh et al. (2011) (see Table 8.4 in Section 8.4), shows that Malaysian listed companies behave similarly to UK listed companies with respect to a variable testing the economic factors (i.e. prior year earnings), a variable testing the contracting perspective (i.e. debt ratio), and three variables testing the opportunistic behaviour perspective (i.e. change in CEO, big bath reporting, and earnings smoothing). They also behave similarly to UK listed companies with respect to a variable testing the discretion available to managers in performing impairment test of goodwill (i.e. CGU_{01} - the only discretion that is tested by AbuGhazaleh et al., 2011). In contrast, Malaysian listed companies differ from UK listed companies with regard to two variables testing companies' economic factors (BTM, and ΔOCF) and two variables testing company-specific factors (i.e. ADD and SIZE).

In regression Model 2, the present measurement study goes beyond AbuGhazaleh et al. (2011) in the following three ways. Firstly, it introduces variables that are specific to Malaysian listed companies, i.e. ownership

structures - managerial ownership, and outside ownership concentration (see Section 8.9). Secondly, it brings in variables that are pertinent to understanding the measurement of goodwill impairment but are not tested by AbuGhazaleh et al. (2011), namely CEO tenure and industry variable (see Section 8.3.3). Thirdly, it explores companies' earnings with three different definitions, namely, prior year earnings (see Section 8.6.2.1), current year pre-write-off earnings (see Section 8.6.2.2), and change in pre-write-off earnings from prior year to current year (see Section 8.6.2.3).

The main conclusions of the chapter are as follows:

Firstly, with regard to the theoretical contributions, the present measurement study has provided support for the opportunistic behaviour perspective in explaining the measurement of goodwill impairment by Malaysian listed companies (see Section 8.8). The applicability of the opportunistic behaviour perspective is based on the statistically significant results for $\Delta CEO_{Current/prior}$, BATH and SMOOTH. However, the present study could not provide support for the contracting perspective in explaining the measurement of goodwill impairment (see Section 8.7).

Secondly, although the opportunistic behaviour perspective is applicable in explaining the measurement of goodwill by Malaysian listed companies, the results generated from Model 2 have shown that not all of the companies' decisions in reporting goodwill impairment losses are driven solely by the opportunistic behaviour perspective. The conflicting results for the economic factors, in particular, the companies' pre-write-off earnings suggest that companies behave differently depending on their level of earnings (see Section 8.12.1). As the current year pre-write-off earnings increase, lower magnitude of goodwill impairment losses are reported. However, as there is a larger earnings surprise[69] between the current year pre-write-off earnings and

[69] Larger refers to BATH, and SMOOTH. As shown in Appendix 1 of the thesis, BATH is defined as a change in pre-write-off earnings from prior year to current year, divided by total assets at the end of prior year, when this change is below the median of non-zero negative values of this variable, and zero otherwise. Meanwhile, SMOOTH is defined as a change in pre-write-off earnings from prior year to current year, divided by total assets at the end of prior year, when this change is above the median of non-zero positive values of this variable, and zero otherwise.

the prior year pre-write-off earnings, higher magnitude of goodwill impairment losses is reported.

Thirdly, with regard to the ownership structures, the present study has shown that Malaysian listed companies have concentrated ownership, in that, the five largest outside shareholders (OUTCON) hold on average 46.8% of the companies' shares (see Section 8.9). This finding suggests that concentrated ownership of companies does not prevent managerial opportunism. Unlike listed companies located in developed economies where the opportunistic behaviour occurs due to an agency conflict between shareholders and managers (see Section 2.3.2), for the Malaysian listed companies which implement FRS 3, managerial opportunism most probably occurs because of an agency conflict between the controlling shareholders (shareholders outside of the companies) and the minority shareholders. Within this conflict, managers would possibly act on behalf of the controlling shareholders at the expense of the minority shareholders.

Finally, the present measurement study has tested the non-monotonic relationship between managerial ownership and the magnitude of goodwill impairment losses (see Section 8.9.1). In doing so, the study has provided evidence on the influence of managerial ownership on the measurement of goodwill impairment when the executive directors collectively hold less than 5% of a company's shares. However, where executive directors collectively hold 5% or more of the shares, managerial ownership has no influential role on the measurement of goodwill impairment by Malaysian listed companies. Thus, this finding highlights the need to incorporate managerial ownership (using a non-monotonic approach - see Section 5.7.1) in order to provide a more comprehensive model of accounting choices related to goodwill impairment by Malaysian listed companies.

Appendix 8.1: Break down of companies which have reported goodwill impairment losses into one time impairers and repeated impairers and their mean and median values of the ratio of goodwill write-off to prior year total assets (including goodwill)

	Initial year			Second year			Third year		
Impairers	N	Mean	Median	N	Mean	Median	N	Mean	Median
One time impairment	82	0.0048	0.0010	67	0.0173	0.0015	65	0.0179	0.0044
Repeated impairers									
- Twice	12	0.0115	0.0030	-	-	-	12	0.0174	0.0031
- Consecutively (years 1 and 2)	22	0.0041	0.0027	22	0.0098	0.0018	-	-	-
- Consecutively (years 2 and 3)				15	0.0032	0.0003	15	0.0022	0.0003
- Thrice	19	0.0321	0.0061	19	0.0107	0.0046	19	0.0126	0.0063
Total	135			123			111		

Appendix 8.2: Descriptive statistics for the continuous variables for total firm-years within the three years period of study

	All observations					Write-off group GWIL(IL)			Non-Write-off group GWIL(0)			Test of differences (write-off vs. Non-write-off)	
	N	Missing values	Mean	Median	SD	Mean	Median	SD	Mean	Median	SD	Mean p-value	Median p-value
Dependent variable GWIL	1498	-	0.003	0.000	0.017	0.012	0.002	0.032	-	-	-	-	-
Economic factors													
ΔSALES (H1)	1498	-	0.092	0.047	0.297	0.080	0.030	0.292	0.096	0.056	0.299	**0.387**	**0.027**
$EARNINGS_{Prior}$ (H2A)	1486	12	0.042	0.043	0.107	0.015	0.028	0.120	0.050	0.048	0.101	0.000	0.000
$EARNINGS_{PreGWILcurrent}$ (H2B)	1486	12	0.039	0.036	0.102	0.011	0.025	0.110	0.048	0.038	0.098	0.000	0.000
$\Delta EARNINGS_{preGWIL}$ (H3)	1486	12	0.008	0.005	0.092	0.004	0.005	0.109	0.009	0.006	0.085	0.406	0.769
ΔOCF (H4)	1489	9	0.014	0.010	0.157	0.015	0.007	0.197	0.014	0.011	0.142	0.897	0.565
BTM (H5)	1498	-	1.585	1.280	1.301	1.622	1.410	1.256	1.573	1.240	1.315	0.526	0.143
GWB (H6)	1309	189	0.051	0.019	0.081	0.046	0.017	0.072	0.053	0.019	0.084	0.176	0.144
Contracting perspective													
DEBTRATIO (H7)	1422	76	0.252	0.237	0.173	0.255	0.238	0.177	0.251	0.237	0.171	0.720	0.915
Opportunistic behaviour perspective													
CEOTENURE (H9)	1389	109	7.307	5.000	7.244	7.733	5.000	8.034	7.167	5.000	6.962	0.208	0.682
BATH (H10)	1486	12	(0.018)	0.000	0.052	(0.026)	0.000	0.070	(0.015)	0.000	0.044	0.000	0.015
SMOOTH (H11)	1486	12	0.024	0.000	0.069	0.029	0.000	0.073	0.023	0.000	0.068	0.108	0.295
Ownership structure													
$MANOWN_{Linear}$ (H12A)	1434	64	10.189	2.745	14.756	10.348	2.335	15.156	10.137	2.895	14.628	0.794	0.459
MANOWN1 ($H12B_1$)	1434	64	2.624	2.760	2.286	2.509	5.371	2.497	2.662	2.895	2.283	0.274	0.208
MANOWN2 ($H12B_2$)	1434	64	5.201	0.000	7.815	2.350	0.000	0.000	5.145	0.000	7.720	0.636	0.696
MANOWN3 ($H12B_3$)	1434	64	2.372	0.000	6.725	2.296	8.104	6.820	2.331	0.000	6.697	0.686	0.365
OUTCON (H13)	1434	64	46.816	46.620	20.208	45.123	44.465	19.613	47.379	47.105	20.379	0.067	0.066

Appendix 8.2 (continue): Descriptive statistics for the continuous variables for total firm-years within the three years period of study

	All observations					Write-off group GWIL(IL)			Non-Write-off group GWIL(0)			Test of differences (write-off vs. Non-write-off)	
	N	Missing values	Mean	Median	SD	Mean	Median	SD	Mean	Median	SD	Mean p-value	Median p-value
Discretion in performing an impairment test of goodwill													
$CGU_{continuous}$ (H14B)	659	839	2.387	2.000	1.769	2.759	2.000	2.237	2.265	2.000	1.570	0.002	0.006
DISCRATE (H15A)	726	772	8.736	8.000	3.172	8.766	8.000	2.896	8.726	8.000	3.257	0.885	0.745
Control variables													
SIZE (H16)	1498	-	12.877	12.671	1.635	13.039	12.828	1.753	12.824	12.634	1.592	0.0284	0.043

Appendix 8.3: Descriptive statistics for the categorical variables for the total firm-years within the three years period of study

Variables	Number of observations (count)				Chi-square test of independence (write-off vs. Non-write-off)	
	All	Missing values	Write-off group	Non-write-off group	Value	Sig. (2-tailed test)
Contracting perspective						
$\Delta CEO_{Current/prior}$ (H_8)	1402	96				
- Change			40	95	1.793	0.181
- No Change			309	958		
Discretion in an impairment test of goodwill						
CGU_{01} (H_{14A})	659	839				
- More than one CGU			118	315	4.851	0.028
- One CGU			44	182		
DISCMULTIPLE (H_{15B})	727[70]	771				
- Multiple			45	91	7.188	0.007
- Single			131	460		
$DISCRATE_{Disclosed/Not}$ (H_{15C})	1498	-				
- Disclosed			176	551		
- Not disclosed			193	578	0.137	0.712
ADD (H19)	1480	18				
- Yes			77	387	22.626	0.000
- No			285	731		
YEND (H18)	1498	-				
- Year 1			135	394	0.544	0.762
- Year 2			123	374		
- Year 3			111	361		
INDUSTRYG5 (H17)[71]	1495	3				
(1) Industrials and Basic materials			153	451		
(2) Consumer goods and services			94	332	6.251	0.181
(3) Financials			60	138		
(4) Utilities, healthcare, Oil and gas			24	92		
(5) Technology and Telecommunication			35	116		
			366	1129		

[70] A difference of one between DISCMULTIPLE (H15B) and DISCRATE (H15A) (see Appendix 8.2) as one company stated that it has applied multiple discount rates without providing the actual rate applied.

[71] The industry group is reduced from 10 to five by combining these industries because of the small number of companies in five industries (see Section 8.2.2.3).

Appendix 8.4: Missing value analysis: The result of Little's MCAR test and Separate Variance *t* tests

	Variables tested for missing values	GWB (H_6)	DEBTRATIO (H_7)	$\Delta CEO_{Current/prior}$ (H_8)	CEOTENURE (H_9)	CGU_{01} (H_{14A})	$CGU_{continuous}$ (H_{14B})	DISCRATE (H_{15A})	DISCMULTIPLE (H_{15B})
Series of variables									
1.	**Dependent variable** GWIL								
	- t	(1.10)	(1.05)	(0.65)	(0.89)	(1.30)	(1.30)	(0.73)	(0.72)
	- df	206	76	101	116	1494	1494	1471	1469
	- **P (2-tail)**	**0.27**	**0.29**	**0.52**	**0.38**	**0.19**	**0.19**	**0.47**	**0.47**
	- Mean (Present)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	- Mean (Missing)	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
2.	Log(ΔSALES+1) (H_1)								
	- t	(3.74)	0.61	(0.33)	(0.23)	0.25	0.25	0.08	0.07
	- df	202	80.95	98	113	1496	1496	1489	1488
	- P (2-tail)	0.00	0.55	0.75	0.82	0.80	0.80	0.94	0.94
	- Mean (Present)	0.07	0.09	0.09	0.09	0.09	0.09	0.09	0.09
	- Mean (Missing)	0.21	0.07	0.11	0.10	0.09	0.09	0.09	0.09
3.	$EARNINGS_{Prior}$ (H_{2A})								
	- t	(1.59)	(3.28)	3.73	3.70	1.78	1.78	2.97	2.90
	- df	223	71	105	120	1484	1484	1416	1415
	- P (2-tail)	0.11	0.00	0.00	0.00	0.08	0.08	0.00	0.00
	- Mean (Present)	0.04	0.04	0.04	0.05	0.05	0.05	0.05	0.05
	- Mean (Missing)	0.05	0.10	0.00	0.00	0.04	0.04	0.03	0.03
4.	$EARNINGS_{PreGWILCurrent}$ (H_{2B})								
	- t	(3.60)	(2.51)	3.98	4.14	3.41	3.41	2.99	3.09
	- df	200	68	108	125	1442	1442	1484	1484
	- P (2-tail)	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
	- Mean (Present)	0.03	0.04	0.04	0.04	0.05	0.05	0.05	0.05
	- Mean (Missing)	0.07	0.10	0.00	0.00	0.03	0.03	0.03	0.03

*****, ******, ******* denote significance at the 0.10, 0.05, and 0.01 level, respectively (two-tailed)

Appendix 8.4 (continue): Missing value analysis: The result of Little's MCAR test and Separate Variance *t* tests

	Variables tested for missing values	GWB (H_6)	DEBTRATIO (H_7)	$\Delta CEO_{Current/prior}$ (H_8)	CEOTENURE (H_9)	CGU_{01} (H_{14A})	$CGU_{continuous}$ (H_{14B})	DISCRATE (H_{15A})	DISCMULTIPLE (H_{15B})
Series of variables									
5.	$\Delta EARNINGS_{preGWIL}$ (H_3)								
	- t	(2.87)	(0.54)	1.01	0.95	1.55	1.55	0.28	0.43
	- df	200	68	111	131	1466	1466	1478	1478
	- P (2-tail)	0.00	0.59	0.31	0.34	0.12	0.12	0.78	0.67
	- Mean (Present)	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	- Mean (Missing)	0.03	0.02	0.00	0.00	0.00	0.00	0.01	0.01
6.	ΔOCF (H_4)								
	- t	(1.29)	(1.14)	0.72	0.56	0.96	0.96	(0.15)	(0.17)
	- df	195	69	101	116	1250	1250	1435	1433
	- P (2-tail)	0.20	0.26	0.47	0.58	0.34	0.34	0.88	0.87
	- Mean (Present)	0.01	0.01	0.02	0.01	0.02	0.02	0.01	0.01
	- Mean (Missing)	0.04	0.05	0.00	0.00	0.01	0.01	0.01	0.01
7.	BTM (H_5)								
	- t	5.80	7.69	(1.04)	(1.54)	(1.72)	(1.72)	1.04	1.05
	- df	335	103	107	122	1428	1428	1475	1477
	- P (2-tail)	0.00	0.00	0.30	0.13	0.09	0.09	0.30	0.29
	- Mean (Present)	1.64	1.62	1.58	1.57	1.52	1.52	1.62	1.62
	- Mean (Missing)	1.21	0.92	1.73	1.79	1.64	1.64	1.55	1.55
8.	GWB (H_6)								
	- t	.	0.35	(1.46)	(1.22)	(1.29)	(1.29)	4.26	4.27
	- df	.	54	82	97	1298	1298	1250	1252
	- P (2-tail)	.	0.72	0.15	0.22	0.20	0.20	0.00	0.00
	- Mean (Present)		0.05	0.05	0.05	0.05	0.05	0.06	0.06
	- Mean (Missing)		0.05	0.07	0.06	0.05	0.05	0.04	0.04

Little's MCAR test:

Chi-Square = 1527.70 DF = 769 Sig. = 0.000

Appendix 8.5: The result of sensitivity analyses for $\Delta CEO_{Current/prior}$

	Sign	The results of coefficients (Z statistics)									
		ΔCEO_{Prior}		$\Delta CEO_{Current}$		$\Delta TopMgt_{Current/prior}$		$\Delta TopMgt_{Prior}$		$\Delta TopMgt_{Current}$	
		Model 2 (h)(i)	Model 2 (h)(ii)	Model 2 (h)(i)	Model 2 (h)(ii)	Model 2 (h)(i)	Model 2 (h)(ii)	Model 2 (h)(i)	Model 2 (h)(ii)	Model 2 (h)(i)	Model 2 (h)(ii)
Observations (N)		1124	1124	1124	1124	1124	1124	1124	1124	1124	1124
Intercept		-0.038 (-2.60)***	-0.036 (-2.59)**	-0.037 (-2.73)***	-0.034 (-2.50)**	-0.039 (-2.82)***	-0.036 (-2.60)***	-0.039 (-2.82)***	-0.036 (-2.59)***	-0.038 (-2.59)***	-0.036 (-2.59)***
Economic factors											
Log(ΔSALES+ 1) (H_1)	-	0.004 (0.33)	-0.005 (-0.40)	0.004 (0.32)	-0.005 (-0.43)	0.004 (0.30)	-0.006 (-0.44)	0.005 (0.38)	-0.005 (-0.39)	0.005 (0.35)	-0.005 (-0.36)
$EARNINGS_{PreGWILCurrent}$ (H_{2B})	-	-0.091 (-4.66)***		-0.090 (-4.86)***	-	-0.089 (-4.79)***	-	-0.093 (-4.94)***	-	-0.087 (-4.50)***	-
$\Delta EARNINGS_{preGWIL}$ (H_3)	-	-	0.061 (2.82)***	-	0.062 (2.92)***	-	0.061 (2.83)***	-	0.06 (2.82)***	-	0.060 (2.82)***
ΔOCF (H_4)	-	0.003 (0.35)	0.002 (0.21)	0.000 (0.05)	-0.000 (-0.06)	0.002 (0.21)	0.001 (0.10)	0.002 (0.31)	0.002 (0.21)	0.001 (0.08)	-0.000 (-0.05)
BTM (H_5)	+	-0.000 (-0.20)	0.000 (0.51)	-0.000 (-0.47)	0.000 (0.35)	-0.000 (-0.46)	0.000 (0.33)	-0.000 (-0.30)	0.000 (0.53)	-0.000 (-0.25)	0.000 (0.42)
GWB (H_6)	+	0.021 (1.22)	0.022 (1.35)	0.020 (1.22)	0.020 (1.26)	0.022 (1.37)	0.022 (1.40)	0.020 (1.26)	0.022 (1.34)	0.021 (1.23)	0.022 (1.37)
Contracting perspective											
DEBTRATIO (H_7)	?	-0.014 (-1.76)*	-0.006 (-0.75)	-0.014 (-1.86)*	-0.005 (-0.63)	-0.015 (-1.91)*	-0.005 (-0.71)	-0.015 (-1.98)**	-0.005 (-0.75)	-0.013 (-1.65)*	-0.005 (-0.69)
Opportunistic behaviour perspective											
$\Delta CEO_{Current/prior}$ (H_8)	+	**0.000 (0.03)**	**0.000 (0.04)**	**0.017 (3.19)*** **	**0.018 (3.33)*** **	**0.008 (1.94)***	**0.009 (2.29)** **	**-0.003 (-0.49)**	**-0.001 (-0.25)**	**0.016 (3.13)*** **	**0.016 (3.26)*** **
CEOTENURE (H_9)	-	0.000 (0.85)	0.000 (0.47)	0.000 (1.68)*	0.000 (1.23)	0.000 (1.47)	0.000 (1.10)	0.000 (0.90)	0.000 (0.43)	0.000 (1.58)	0.000 (1.26)

*, **, *** denote significance at the 0.10, 0.05, and 0.01 level, respectively (two-tailed)

Appendix 8.5 (continue): The result of sensitivity analyses for $\Delta CEO_{Current/prior}$

	Sign	The results of coefficients (Z statistics)									
		ΔCEO_{Prior}		$\Delta CEO_{Current}$		$\Delta TopMgt_{Current/prior}$		$\Delta TopMgt_{Prior}$		$\Delta TopMgt_{Current}$	
		Model 2 (h)(i)	Model 2 (h)(ii)	Model 2 (h)(i)	Model 2 (h)(ii)	Model 2 (h)(i)	Model 2 (h)(ii)	Model 2 (h)(i)	Model 2 (h)(ii)	Model 2 (h)(i)	Model 2 (h)(ii)
Opportunistic behaviour perspective											
BATH (H_{10})	-	-0.052 (-1.89)*	-0.195 (5.83)***	-0.054 (-2.05)**	-0.196 (-5.97)***	-0.053 (-1.98)**	-0.193 (-5.82)***	-0.051 (-1.92)*	-0.195 (-5.84)***	-0.055 (-2.03)**	-0.194 (-5.87)***
SMOOTH (H_{11})	+	0.066 (2.84)***	-	0.080 (3.67)***	-	0.079 (3.59)***	-	0.079 (3.61)***	-	0.064 (2.79)***	-
Ownership structure											
MANOWN1 ($H12B_1$)	?	-0.002 (-2.54)**	-0.002 (-2.67)***	-0.002 (-2.33)**	-0.002 (-2.48)**	-0.002 (-2.28)**	-0.002 (-2.38)**	-0.002 (-2.55)**	-0.002 (2.69)***	-0.002 (-2.31)**	-0.002 (-2.43)**
MANOWN2 ($H12B_2$)	?	0.000 (0.56)	0.000 (0.73)	0.000 (0.41)	0.000 (0.72)	0.000 (0.37)	0.000 (0.67)	0.000 (0.43)	0.000 (0.74)	0.000 (0.51)	0.000 (0.67)
MANOWN3 ($H12B_3$)	?	0.000 (0.72)	0.000 (0.23)	0.000 (0.91)	0.000 (0.30)	0.000 (0.94)	0.000 (0.36)	0.000 (0.83)	0.000 (0.22)	0.000 (0.83)	0.000 (0.38)
OUTCON (H_{13})	?	-0.000 (-1.66)*	-0.000 (-2.18)**	-0.000 (-1.93)*	-0.000 (-2.28)**	-0.000 (-1.80)*	-0.000 (-2.15)**	-0.000 (-1.83)*	-0.000 (-2.18)**	-0.000 (-1.75)*	-0.000 (-2.24)**
Control variables											
SIZE (H_{16})	?	0.002 (2.02)**	0.002 (1.68)*	0.002 (2.01)**	0.001 (1.40)	0.002 (2.10)**	0.001 (1.49)	0.002 (2.31)**	0.002 (1.70)*	0.002 (1.81)*	0.001 (1.47)
INDUSTRYG5 (H_{17}) 1 -Ind.	?										
2 - Consumer goods and serv.		0.001 (0.46)	0.000 (0.20)	0.001 (0.41)	0.000 (0.08)	0.002 (0.51)	0.001 (0.18)	0.002 (0.51)	0.001 (0.20)	0.001 (0.35)	0.000 (0.09)
3 – Financials		-0.000 (-0.15)	0.001 (0.14)	-0.000 (-0.13)	0.000 (0.11)	0.000 (-0.11)	0.000 (0.12)	-0.000 (-0.10)	0.001 (0.14)	-0.001 (-0.15)	0.001 (0.14)
4 - Util.health., Oil and Gas		-0.003 (-0.62)	-0.004 (-0.82)	-0.004 (-0.74)	-0.005 (-0.96)	-0.003 (-0.63)	-0.004 (-0.84)	-0.003 (-0.61)	-0.004 (-0.82)	-0.004 (-0.71)	-0.005 (-0.91)

*, **, *** denote significance at the 0.10, 0.05, and 0.01 level, respectively (two-tailed)

Appendix 8.5 (continue): The result of sensitivity analyses for $\Delta CEO_{Current/prior}$

	Sign	The results of coefficients (Z statistics)									
		ΔCEO_{Prior}		$\Delta CEO_{Current}$		$\Delta TopMgt_{Current/prior}$		$\Delta TopMgt_{Prior}$		$\Delta TopMgt_{Current}$	
		Model 2 (h)(i)	Model 2 (h)(ii)	Model 2 (h)(i)	Model 2 (h)(ii)	Model 2 (h)(i)	Model 2 (h)(ii)	Model 2 (h)(i)	Model 2 (h)(ii)	Model 2 (h)(i)	Model 2 (h)(ii)
5 - Technology and Telecom.		0.004 (0.73)	0.004 (0.77)	0.003 (0.66)	0.003 (0.72)	0.003 (0.63)	0.003 (0.69)	0.003 (0.72)	0.004 (0.78)	0.003 (0.58)	0.003 (0.61)
YEND-1 (H_{18})	?										
- Year 2		0.003 (1.12)	0.002 (0.78)	0.003 (1.10)	0.003 (0.92)	0.003 (0.97)	0.002 (0.78)	0.003 (1.00)	0.002 (0.80)	0.004 (1.31)	0.003 (0.98)
- Year 3		0.002 (0.51)	-0.000 (-0.13)	0.002 (0.59)	0.000 (0.09)	0.001 (0.41)	0.000 (-0.10)	0.001 (0.43)	-0.000 (-0.11)	0.002 (0.69)	0.000 (0.08)
ADD (H_{19})	+	-0.007 (-2.17)**	-0.008 (-2.70)***	-0.007 (-2.24)**	-0.008 (-2.67)***	-0.006 (-2.19)**	-0.008 (-2.61)***	-0.007 (-2.26)**	-0.008 (-2.71)***	-0.006 (-2.12)**	-0.008 (-2.62)***
Log likelihood		289.36	316.27	349.78	332.74	355.88	295.43	330.43	338.64	294.09	320.97
Wald Chi-square		87.03***	72.09***	105.62***	83.33***	99.10***	77.26***	95.48***	72.19***	96.42***	82.81***

*****, ******, ******* denote significance at the 0.10, 0.05, and 0.01 level, respectively (two-tailed)

Appendix 8.6: The result of sensitivity analyses for Managerial ownership

	Sign	The results of coefficients (Z statistics)					
		$MANOWN_{Non\text{-}monotonic}$				$MANOWN_{Linear}$	
		Changing the cut-off point from 25% to 20%		Changing the cut-off point from 25% to 30%			
		Model 2(h)(i)	Model 2(h)(ii)	Model 2(h)(i)	Model 2(h)(ii)	Model 2 (h)(i)	Model 2 (h)(ii)
Observations (N)		1124	1124	1124	1124	1124	1124
Intercept		-0.038 (-2.79)***	-0.035 (-2.56)**	-0.038 (-2.75)***	-0.035 (-2.56)**	-0.037 (-2.50)**	-0.035 (-2.54)**
Economic factors							
$Log(\Delta SALES+1)$ (H_1)	-	-0.002 (0.21)	-0.007 (-0.55)	0.003 (0.21)	-0.007 (-0.55)	0.003 (0.25)	-0.006 (-0.47)
$EARNINGS_{PreGWILCurrent}$ (H_{2B})	-	-0.091 (-4.90)***	-	-0.090 (-4.86)***		-0.086 (-4.49)***	
$\Delta EARNINGS_{preGWIL}$ (H_3)	-	-	0.063 (2.93)***	-	0.063 (2.93)***	-	0.061 (2.85)***
ΔOCF (H_4)	-	0.002 (0.21)	0.001 (0.10)	0.001 (0.20)	0.001 (0.10)	0.002 (0.24)	0.001 (0.11)
BTM (H_5)	+	-0.001 (-0.59)	0.000 (0.24)	-0.001 (-0.55)	0.000 (0.24)	-0.001 (-0.65)	0.000 (0.03)
GWB (H_6)	+	0.021 (1.31)	0.021 (1.32)	0.021 (1.31)	0.021 (1.32)	0.022 (1.31)	0.022 (1.37)
Contracting perspective							
DEBTRATIO (H_7)	**?**	-0.014 (-1.84)*	-0.005 (-0.61)	-0.014 (-1.86)*	-0.005 (-0.61)	-0.014 (-1.69)*	-0.005 (-0.69)

*****, ******, ******* denote significance at the 0.10, 0.05, and 0.01 level, respectively (two-tailed

Appendix 8.6 (continue): The result of sensitivity analyses for Managerial ownership

	Sign	The results of coefficients (Z statistics)					
		$MANOWN_{Non\text{-}monotonic}$				$MANOWN_{Linear}$	
		Changing the cut-off point from 25% to 20%		Changing the cut-off point from 25% to 30%			
		Model 2(h)(i)	Model 2(h)(ii)	Model 2(h)(i)	Model 2(h)(ii)	Model 2 (h)(i)	Model 2 (h)(ii)
Opportunistic behaviour perspective							
$\Delta CEO_{Current/prior}$ (H_8)	+	0.011 (2.51)**	0.012 (2.64)***	0.011 (2.49)**	0.012 (2.64)***	0.012 (2.66)***	0.011 (2.65)***
CEOTENURE (H_9)	-	0.000 (1.69)*	0.000 (1.25)	0.000 (1.67)*	0.000 (1.25)	0.000 (1.37)	0.000 (1.05)
BATH (H_{10})	-	-0.051 (-1.94)*	-0.195 (-5.91)***	-0.052 (-1.97)**	-0.192 (-5.91)***	-0.055 (-2.00)**	-0.193 (-5.87)***
SMOOTH (H_{11})	+	0.080 (3.69)***	-	0.080 (3.65)***	-	0.063 (2.75)***	-
Ownership structure							
$MANOWN_{Linear}$ (H_{12A})	?					-0.004 (-1.53)	-0.005 (-1.73)*
MANOWN1 ($H12B_1$)	?	-0.002 (-2.02)**	-0.002 (-2.19)**	-0.002 (-2.42)**	-0.002 (-2.19)**	-	-
MANOWN2 ($H12B_2$)	?	-0.000 (-0.14)	0.000 (0.22)	0.000 (0.64)	0.000 (0.22)	-	-
MANOWN3 ($H12B_3$)	?	-0.000 (-1.36)	0.000 (0.77)	0.000 (0.76)	0.000 (0.77)	-	-
OUTCON (H_{13})	?	-0.000 (-1.86)*	-0.000 (-2.22)**	-0.000 (-1.87)*	-0.000 (-2.22)**	-0.000 (-2.18)**	-0.000 (-2.63)***

*****, ******, ******* denote significance at the 0.10, 0.05, and 0.01 level, respectively (two-tailed

Appendix 8.6 (continue): The result of sensitivity analyses for Managerial ownership

	Sign	The results of coefficients (Z statistics)					
		$MANOWN_{Non\text{-}monotonic}$				$MANOWN_{Linear}$	
		Changing the cut-off point from 25% to 20%		Changing the cut-off point from 25% to 30%			
		Model 2(h)(i)	Model 2(h)(ii)	Model 2(h)(i)	Model 2(h)(ii)	Model 2 (h)(i)	Model 2 (h)(ii)
SIZE (H_{16})	?	0.002 (2.07)**	0.001 (1.47)	0.002 (2.05)**	0.001 (1.47)	0.002 (1.83)*	0.001 (1.55)
INDUSTRYG5 (H_{17}) 1 – Indust.	?						
2 - Consumer goods and services		0.001 (0.45)	0.000 (0.11)	0.001 (0.41)	0.000 (0.11)	0.002 (0.55)	0.001 (0.29)
3 – Financials		-0.001 (-0.22)	0.000 (0.01)	-0.000 (-0.21)	0.000 (0.01)	-0.000 (-0.04)	0.001 (0.22)
4 - Utilities, healthcare, Oil and Gas		-0.004 (-0.79)	-0.005 (-1.01)	-0.004 (-0.74)	-0.005 (-1.01)	-0.004 (-0.67)	-0.005 (-0.94)
5 - Technology and Telecom.		0.003 (0.64)	0.003 (0.71)	0.003 (0.62)	0.003 (0.71)	0.004 (0.76)	0.004 (0.81)
YEND – Year 1 (H_{18})	?						
- Year 2		0.003 (0.95)	0.002 (0.75)	0.003 (0.95)	0.002 (0.75)	0.003 (0.95)	0.002 (0.62)
- Year 3		0.001 (0.41)	-0.000 (-0.12)	0.001 (0.39)	-0.000 (-0.12)	0.002 (0.52)	-0.003 (-0.09)
ADD (H_{19})	+	-0.007 (-2.20)**	-0.007 (-2.64)***	-0.007 (-2.24)**	-0.008 (-2.64)***	-0.007 (-2.21)**	-0.008 (-2.69)***
Log likelihood		354.81	314.57	300.24	314.57	290.34	309.43
Wald chi-square		**101.86*****	**78.96*****	**101.43*****	**78.96*****	**89.41*****	**75.67*****

*****, ******, ******* denote significance at the 0.10, 0.05, and 0.01 level, respectively (two-tailed

Appendix 8.7: The result of sensitivity analyses for $EARNINGS_{prior}$ by replacing it with $EARNINGS_{PreGWILprior}$

	Sign	The results of coefficients (Z statistics)					
		Model 1	**Model 2(a)(i)**	**Model 2(a)(ii)**	**Model 2(b)**	**Model 2(c)**	**Model 2(d)**
Observations (N)		538	518	518	374	531	537
Intercept		-0.055 (-3.58)***	-0.044 (-2.59)***	-0.051 (-2.66)***	-0.047 (-2.59)***	-0.057 (-3.68)***	-0.055 (-3.41)***
Economic factors							
$Log(\Delta SALES+1)$ (H_1)	-	-0.017 (-0.93)	-0.015 (-0.78)	-0.020 (-1.03)	-0.007 (-0.29)	-0.016 (-0.88)	-0.016 (-0.87)
$EARNINGS_{PreGWILprior}$	-	**-0.082 (-2.78)*** **	**-0.074 (-2.79)*** **	**-0.085 (-2.86)*** **	**-0.069 (-1.70)***	**-0.083 (-2.72)*** **	**-0.080 (-2.70)*** **
ΔOCF (H_4)	-	0.002 (0.21)	0.002 (0.25)	0.002 (0.28)	-0.004 (-0.23)	0.001 (0.12)	0.001 (0.18)
BTM (H_5)	+	0.001 (0.61)	0.000 (0.14)	0.001 (0.81)	0.000 (0.19)	0.001 (0.66)	0.001 (0.52)
GWB (H_6)	+	0.035 (1.32)	0.019 (0.83)	0.028 (1.07)	0.012 (0.41)	0.039 (1.46)	0.035 (1.31)
Contracting perspective							
DEBTRATIO (H_7)	**?**	0.000 (0.01)	-0.001 (-0.15)	-0.001 (-0.14)	-0.007 (-0.59)	-0.001 (-0.12)	0.001 (0.11)
Opportunistic behaviour perspective							
$\Delta CEO_{Current/prior}$ (H_8)	+	0.010 (2.07)**	0.011 (2.35)**	0.011 (2.31)**	0.015 (2.61)***	0.012 (2.31)**	0.010 (2.12)**

*, **, *** denote significance at the 0.10, 0.05, and 0.01 level, respectively (two-tailed)

Appendix 8.7 (continue): The result of sensitivity analyses for $EARNINGS_{prior}$ by replacing it with $EARNINGS_{PreGWILprior}$

	Sign	The results of coefficients (Z statistics)					
		Model 1	**Model 2(a)(i)**	**Model 2(a)(ii)**	**Model 2(b)**	**Model 2(c)**	**Model 2(d)**
CEOTENURE (H_9)	-	-	-	-	-	0.000 (1.23)	-
BATH (H_{10})	-	-0.091 (-2.51)**	-0.096 (-2.66)***	-0.086 (-2.33)**	-0.099 (-1.99)**	-0.094 (-2.58)***	-0.089 (-2.43)**
SMOOTH (H_{11})	+	0.048 (1.20)	0.043 (1.12)	0.039 (0.96)	0.082 (1.42)	0.052 (1.28)	0.047 (1.18)
Ownership structure							
$MANOWN_{Linear}$ (H_{12A})	?		-0.002 (-0.66)	-	-	-	-
MANOWN1 (H_{12B1})	?	-	-	-0.001 (-1.50)	-	-	-
MANOWN2 (H_{12B2})	?	-	-	0.000 (0.75)	-	-	-
MANOWN3 (H_{12B3})	?	-	-	0.000 (0.97)	-	-	-
OUTCON (H_{13})	?	-	-0.000 (-1.75)*	-0.000 (-0.83)	-	-	-
Discretion - impairment test							
CGU_{01} (H_{14A})	?	0.002 (0.62)	0.005 (1.45)	0.003 (0.71)	-	0.002 (0.65)	0.003 (0.65)
$CGU_{continuous}$ (H_{14B})	?	-	-	-	0.001 (1.20)	-	-

*, **, *** denote significance at the 0.10, 0.05, and 0.01 level, respectively (two-tailed)

Appendix 8.7 (continue): The result of sensitivity analyses for $EARNINGS_{prior}$ by replacing it with $EARNINGS_{PreGWILprior}$

	Sign	The results of coefficients (Z statistics)					
		Model 1	**Model 2(a)(i)**	**Model 2(a)(ii)**	**Model 2(b)**	**Model 2(c)**	**Model 2(d)**
DISCRATE (H_{15A})	**?**	-	-	-	-0.001 (-1.13)	-	-
DISCMULTIPLE (H_{15B})	**?**	-	-	-	0.004 (0.82)	-	-
Control variables							
SIZE (H_{16})	**?**	0.002 (2.08)**	0.022 (2.22)**	0.002 (2.04)**	0.002 (1.58)	0.002 (2.04)**	0.002 (1.90)*
INDUSTRYG5 (H_{17}) 1 - Indus. And B.materials	**?**						
2 - Consumer goods and services		-	-	-	-	-	-0.001 (-0.24)
3 – Financials		-	-	-	-	-	-0.000 (-0.04)
4 - Utilities, healthcare, and Oil and Gas		-	-	-	-	-	-0.003 (-0.54)
5 - Technology and Telecom.		-	-	-	-	-	-0.000 (-0.00)
YEND – Year 1 (H_{18})	**?**						
- Year 2		0.001 (0.28)	0.000 (0.03)	0.001 (0.34)	0.003 (0.67)	0.001 (0.20)	0.001 (0.28)
- Year 3		0.001 (0.16)	0.000 (0.06)	0.000 (0.03)	0.003 (0.52)	0.000 (0.09)	0.001 (0.20)

*****, ******, ******* denote significance at the 0.10, 0.05, and 0.01 level, respectively (two-tailed)

Appendix 8.7 (continue): The result of sensitivity analyses for $EARNINGS_{prior}$ by replacing it with $EARNINGS_{PreGWILprior}$

	Sign	The results of coefficients (Z statistics)					
		Model 1	**Model 2(a)(i)**	**Model 2(a)(ii)**	**Model 2(b)**	**Model 2(c)**	**Model 2(d)**
ADD (H_{19})	+	-0.001 (-0.22)	-0.003 (-0.98)	-0.000 (-0.08)	-0.003 (-0.63)	-0.001 (-0.24)	-0.001 (-0.23)
Log likelihood		188.99	222.43	189.58	154.13	188.07	189.15
Wald chi-square		**31.82*** **	**39.43*** **	**37.63*** **	**23.92***	**32.02*** **	**32.16*** **

*, **, *** denote significance at the 0.10, 0.05, and 0.01 level, respectively (two-tailed)

Chapter 9: Recognition Study of Goodwill Impairment - Results and Analysis

9.1 Introduction

The measurement study in Chapter 8 has provided empirical evidence on factors influencing the managers' decisions when determining the magnitude of goodwill impairment losses divided by prior year total assets (including goodwill), and zero otherwise reported on the income statement (see Section 1.4.2). In their review of studies on asset write-offs, Alciatore et al. (1998: 33) highlighted the lack of research on the motives of companies that 'have impaired assets but have *not* written them down' (see Section 2.2.2). In the context of goodwill impairment, the gap identified is timely, as one of the concerns raised by the IASB board members via the dissenting opinion of IAS 36 *Impairment of Assets* was the lack of a rigorous impairment test of goodwill, given that the focus of the IASB is in preventing excessive assets write-offs (see Section 4.5).

In response to the gap highlighted by Alciatore et al. (1998: 33), the present chapter takes a step beyond the measurement study by examining factors influencing the recognition choice related to reporting zero goodwill impairment exercised by Malaysian listed companies in a situation where their market values are below the book values of their net assets for three consecutive years. By analysing the recognition choice related to reporting zero goodwill impairment, this chapter aims to address the research questions summarised in Figure 9.1 (see Sections 1.3 and 5.2 for detailed discussion):

Figure 9.1: Summary of research questions (RQ) for the recognition study of goodwill impairment by Malaysian listed companies

Theoretical research question		
RQ 1	:	How can an investigation of FRS 3, focusing on goodwill impairment by Malaysian listed companies, contribute to the theories of accounting choice?
Specific research questions		
RQ 9	:	Economic factors To what extent does the recognition choice[72] related to reporting zero goodwill impairment exercised by Malaysian listed companies reflect the underlying economic values of cash-generating-units containing goodwill?
RQ 10	:	Contracting perspective To what extent does the recognition choice related to reporting zero goodwill impairment exercised by Malaysian listed companies support the contracting perspective?
RQ 11	:	Opportunistic behaviour perspective To what extent does the recognition choice related to reporting zero goodwill impairment exercised by Malaysian listed companies support the opportunistic behaviour perspective?
RQ 12	:	Ownership structures To what extent does the recognition choice related to reporting zero goodwill impairment exercised by Malaysian listed companies indicate that they reflect companies' ownership structures?

The chapter is structured as follows. Section 9.2 describes the setting which is constructed to capture evidence of a recognition choice related to reporting zero goodwill impairment, and the distribution of data. Section 9.3 outlines two main binary logistic models employed, and discusses the issue of multicollinearity. Section 9.4 discusses the regression diagnostics tests carried out, the overall goodness-of-fit of the models, and the sensitivity analysis performed. Section 9.5 discusses the results for each of the research questions and the control variables. Section 9.6 summarises and concludes the chapter.

[72] The recognition choice related to reporting zero goodwill impairment focuses on companies which their market values lower than the book values of the net assets for three consecutive years and which reported zero goodwill impairment.

9.2 Descriptive analysis

The descriptive analysis discussed in this section serves two purposes: firstly, to describe the setting which is designed to capture evidence of a recognition choice related to reporting zero goodwill impairment (see Section 9.2.1); secondly, to describe the distribution of data (see Section 9.2.2).

9.2.1 Setting designed to capture evidence of a recognition choice related to reporting zero goodwill impairment

This chapter seeks to explore the motives of companies in recognising zero goodwill impairment. To explore these motives, companies which have market values below the book values of their net assets for three consecutive years are selected since (as discussed in Section 4.3) this condition is one of the indications that goodwill may be impaired. Interviews with the senior manager of a big-4 audit firm, a financial analyst, a former standard setter, and a finance manager with Malaysian listed companies were carried out by the researcher in Malaysia at an early stage of this PhD study (see Section 3.2.5). Results from these interviews suggest that for Malaysian listed companies, market capitalisation indication occurring within a single year, could be considered to be a temporary situation. Accordingly, such companies may not consider undertaking goodwill write-off.

Therefore, focusing on companies which have market values below the book values of their net assets for *three consecutive years*, provides a stronger market capitalisation indication that goodwill may be impaired. Moreover, this provides a setting to test why companies in a condition that appears to indicate goodwill may be impaired, would recognise zero goodwill impairment, while other companies in a similar condition would recognise goodwill impairment losses.

In this setting, companies which recognise zero goodwill impairment throughout the three years are considered as exercising a recognition choice related to reporting zero goodwill impairment. These companies are referred to as a test

group; and are tested against a control group of companies (see Figure 9.2). The control group is a group of companies which experience similar condition (i.e. their market values are below the book values of their net assets for three consecutive years); however, these companies report goodwill impairment losses at the end of the third year. To perform the analysis, the test group is coded as one and the control group is coded as zero (see Figure 9.2). Accordingly, the dependent variable is a dichotomous variable, equal to one for the test group, and zero for the control group. The setting comprises 132 companies (before missing values) of which 96 companies are regarded as the test group and 36 companies are considered as the control group (see Figure 9.3).

Figure 9.2: Summary of a setting designed to capture evidence of a recognition choice related to reporting zero goodwill impairment

Description	Recognition choice examined	Selection criteria	Dependent variable	Year of analysis
A situation where companies' market values are lower than the book values of their net assets for three consecutive years	The recognition choice for companies which recognise zero goodwill impairment when their market values are below the book values of their net assets for three consecutive years	Test group: Companies which reported zero goodwill impairment when their market values are lower than the book values of their net assets for three consecutive years. Control group: Companies which reported goodwill impairment losses at the end of the third year when their market values are below the book values of their net assets for three consecutive years.	Is a dichotomous variable, equal to one for the test group; zero for the control group	The analysis of the recognition choice is carried out in year 3.

Figure 9.3: Number of companies tested for the test group and the control group

	Before missing values	After missing values
Test group: Market values less than the book values of the net assets for three consecutive years and reported zero goodwill impairment	96	77[73]
Control group: Market values less than the book values of the net assets for three consecutive years and reported goodwill impairment losses at the end of year 3	36	31
Total	132	108[74]

9.2.2 Distribution of data

The descriptive statistics for both the continuous and categorical variables tested in the present chapter are displayed in Appendices 9.1 to 9.2. The appendices highlight two issues concerning the distribution of data. Firstly, current year pre-write-off earnings (i.e. $EARNINGS_{PreGWILCurrent}$) are highly skewed (see Appendix 9.1). The transformation of this variable into logarithm [i.e. $Log10(0.4^{75}-EARNINGS_{PreGWILCurrent}$] solves the issue of skewness as the skewness value of the variable reduces from -2.827 to 1.242. Therefore, in the present chapter,

[73] An alternative approach would to be to test the two groups of companies using the match-pair based on size of a company. However, in doing so more than half of the companies in the test group would be lost. Therefore, to get a comprehensive analysis of companies which recognised zero goodwill impairment when their market values are lower than the book values of their net assets for three consecutive years, the match-pair analysis is not undertaken.

[74] The missing value analysis is carried out using Little's MCAR test (see Section 6.6.2). The test produces a Chi-Square value of 74.875 and is non-significant (i.e. p-value greater than 0.05), suggesting that the null hypothesis that the data are missing *completely* at random cannot be rejected. Hence, it is inferred that the data are missing *completely* at random. According to Tabachnick and Fidell (2007: 63), when this is the case, then there is no serious problem with the data as the missing values are not related to the dependent variable or the independent variables.

[75] Although $Log10(EARNINGS_{PreGWILCurrent})$ solves the issue of skewness of the variable, $Log10(0.4-EARNINGS_{PreGWILCurrent})$ is employed. This is because the former would lead to loss of 25 companies which reported negative current year pre-write-off earnings (see Footnote 1 of Table 9.2 for the interpretation of the coefficient).

Log10(0.4-EARNINGS$_{PreGWILCurrent}$) will be applied in testing the recognition choice related to reporting zero goodwill impairment.

The second issue regarding the distribution of data is the lack of companies for three variables, i.e. $\Delta CEO_{Current/prior}$, ADD, and INDUSTRYG5 (see Appendix 9.2). For example, for $\Delta CEO_{Current/prior}$, there are five companies in the control group which experienced change in CEO (the expected cell frequency is 3). Peers (1996: 167) argues that the Chi-square test should not be used when any expected cell frequencies are small because the probability distribution of the Chi-square gives a poor approximation to the sampling distribution of the Chi-square statistic. For this reason, these variables are excluded in the regression diagnostics tests I and II (see Section 9.4.1 and Table 9.2).

9.3 Binary logistic regression models

In the present chapter, the binary nature of the dependent variable (see Figure 9.2) leads to the application of a binary logistic regression (see Section 6.8). Accordingly, the recognition study is modelling the probability of a recognition choice related to reporting zero goodwill impairment exercised by Malaysian listed companies. Two models constructed in the measurement study (see Section 8.3.3) are adapted in the present chapter to test the recognition choice related to reporting zero goodwill impairment. These models are Model 2(h)(i) and Model 2(h)(ii) (see Figure 9.4). The two models are selected as they produce the highest Wald Chi-square with statistically significant p-values, suggesting that these models can better explain the overall factors influencing managers' decisions related to goodwill impairment. Hence, compared to the other models specified in Section 8.3.3, they are expected to best model the recognition choice related to reporting zero goodwill impairment.

Figure 9.4: Models specification for the analysis of the recognition choice related to reporting zero goodwill impairment

Model	Specifications of the variables
Model A - Adapted from Model 2(h)(i) in the measurement study	$= \alpha + \beta_1\Delta SALES+\beta_2 EARNINGS_{PreGWILCurrent} +\beta_4\Delta OCF+\beta_5 BTM + \beta_6 GWB + \beta_7 DEBTRATIO +\beta_8\Delta CEO_{Current/prior} + \beta_9 CEOTENURE+ +\beta_{10} BATH +\beta_{11} SMOOTH + \beta_{12B1} MANOWN1 + \beta_{12B2} MANOWN2 + \beta_{12B3} MANOWN3 + \beta_{13} OUTCON+\beta_{16} SIZE + \beta_{17} INDUSTRYG5 +\beta_{19} ADD +\varepsilon$
Model B - Adapted from Model 2(h)(ii) in the measurement study	$= \alpha + \beta_1\Delta SALES+\beta_3\Delta EARNINGS_{preGWIL}+\beta_4\Delta OCF+\beta_5 BTM +\beta_6 GWB + \beta_7 DEBTRATIO + \beta_8\Delta CEO_{Current/prior} +\beta_9 CEOTENURE+ \beta_{11} SMOOTH +\beta_{12B1} MANOWN1 + \beta_{12B2} MANOWN2 + \beta_{12B3} MANOWN3 +\beta_{13} OUTCON+\beta_{16} SIZE +\beta_{17} INDUSTRYG5 +\beta_{19} ADD +\varepsilon$

Where;

Variable	**Description** (see **Appendix 1 of the thesis** for detail)
GWIL(0,1)	= A dichotomous variable, equal to one when companies are considered as exercising a recognition choice related to reporting zero goodwill impairment, and zero otherwise.
Economic factors	
$\Delta SALES$ (H_1)	Change in sales $= \frac{(SALES_t - SALES_{t-1})}{\text{Total assets}_{t-1}}$
$EARNINGS_{PreGWILCurrent}$ (H_{2B})	Current year pre-write-off earnings $= \frac{(EARNINGS_t + GWIL(IL)_t)}{\text{Total assets}_{t-1}}$ The variable is transformed into logarithm [i.e. Log10(0.4-$EARNINGS_{PreGWILCurrent}$] (see Section 9.2.2).
$\Delta EARNINGS_{preGWIL}$ (H_3)	Change in pre-write-off earnings $= \frac{[EARNINGS_t + GWIL(IL)_t]- [EARNINGS_{t-1} + GWIL(IL)^{76}_{t-1}]}{\text{Total assets}_{t-1}}$
ΔOCF (H_4)	Change in operating cash flows $= (OCF_t - OCF_{t-1})/\text{Total assets}_{t-1}$
BTM (H_5)	Book-to-market ratio = Company *i*'s book value of equity divided by market value of equity at the end of t.
GWB (H_6)	Relative size of goodwill balance $= \frac{\text{Opening goodwill balance}_t}{\text{Total assets}_{t-1}}$
Contracting perspective	
DEBTRATIO (H_7)	Debt contracting $= \frac{\text{Total Debts}_{t-1}}{}$

[76] GWIL(IL) refers to reporting goodwill impairment losses.

	Total assets$_{t-1}$
Opportunistic behaviour perspective	
$\Delta CEO_{Current/prior}$ (H_8)	Change in CEO = One if there is a change in CEO in t-1 or t, and zero otherwise.
CEOTENURE (H_9)	CEO tenure = The number of years that the CEO has held the position
BATH (H_{10})	Big bath reporting = Change in pre-write-off earnings from t-1 to t divided by total assets at the end of t-1, when this change is below the median of non-zero negative values of this variable, and zero otherwise.
SMOOTH (H_{11})	Earnings smoothing = Change in pre-write-off earnings from t-1 to t divided by total assets at the end of t-1, when this change is above the median of non-zero positive values of this variable, and zero otherwise.
Ownership structure	
$MANOWN_{Non-monotonic}$ (H_{12B})	MANOWN1 = board ownership if board ownership < 0.05 = 0.05 if board ownership ≥ 0.05 MANOW□2 = 0 if board ownership < 0.05 = board ownership minus 0.05 if 0.05≤board ownership< 0.25 = 0.20 if board ownership ≥ 0.25 MANOWN3 = 0 if board ownership < 0.25 = board ownership minus 0.25 if board ownership ≥ 0.25
OUTCON (H_{13})	Outside ownership concentration = (No. of ordinary shares held by outsiders with the five largest claims)/ (Total no. of issued and paid up ordinary shares)
Control variables	
SIZE (H_{16})	Size of company = Ln(Total assets$_{t-1}$)
INDUSTRYG5 (H_{17})	Type of industry = A dummy variable across five industry categories.
ADD (H_{19})	Addition to goodwill = One if there is a newly acquired goodwill, and zero otherwise.
ε	= Error term

The two models presented in Figure 9.4 differ from Models 2(h)(i) and 2(h)(ii) of the measurement study. The changes from the measurement study are now explained. In the measurement study, models 2(h)(i) and 2(h)(ii) test the magnitude of goodwill impairment losses divided by prior year total assets

(including goodwill), and zero otherwise reported on the income statement. In the present chapter, i.e. the recognition study, the dependent variable is a dichotomous variable (see Table 5.1 in Section 5.2). For this reason, Model 2(h)(i) is referred to as Model A, and Model 2(h)(ii) is referred to as Model B (see Figure 9.4). In both models, financial year-end (YEND) is excluded as the analysis of data is undertaken in the third year.

Secondly, multicollinearity is assessed using Pearson's product-moment correlation coefficient test. Table 9.1 shows that for the most part, the independent variables are not significantly correlated with one another or with the control variables, except the correlations between BATH and $\Delta EARNINGS_{preGWIL}$ at 0.86 with p-value less than 0.01. To overcome the issue of multicollinearity, $\Delta EARNINGS_{preGWIL}$ is analysed separately from BATH. Accordingly, BATH which is included in Model 2(h)(ii) is excluded from Model B. Additionally, because there is no issue of multicollinearity between SMOOTH and $\Delta EARNINGS_{preGWIL}$, Model B incorporates SMOOTH. Therefore, Model B differs slightly from Model 2(h)(ii) as it excludes BATH and includes SMOOTH (see Figure 9.4 in Section 9.3, and Table 8.3 in Section 8.3.3).

Thirdly, in the present chapter, the effects of variables such as CGUs and discount rates, testing the discretion available to managers in performing an impairment test of goodwill, are not examined. This is because these variables suffer from a high frequency of missing values, and including these variables would reduce the number of observations significantly.

Table 9.1: Pearson product-moment correlation coefficients

Variable		1	2	3	4	5	6	7	8	9
1	GWIL(0,1)	1.00								
2	ΔSALES (H_1)	0.11	1.00							
3	$EARNINGS_{PriorPreGWIL}$ (H_{2A})	0.12	0.20*	1.00						
4	Log10(0.4-$EARNINGS_{PreGWILCurrent}$) ($H_{2B}$)	0.26**	-0.20*	-0.42**	1.00					
5	$\Delta EARNINGS_{preGWIL}$ (H_3)	0.18*	-0.01	-0.41**	-0.64**	1.00				
6	ΔOCF (H_4)	-0.06	0.17	0.03	-0.12	0.09	1.00			
7	BTM (H_5)	0.01	-0.12	-0.31**	0.27**	0.02	0.04	1.00		
8	GWB (H_6)	-0.07	-0.13	-0.25**	0.25**	-0.05	-0.08*	0.06	1.00	
9	DEBTRATIO (H_7)	-0.02	-0.05	-0.26**	0.22*	0.05	0.13	0.27**	-0.01	1.00
10	CEOTENURE (H_9)	0.10	0.06	0.10	-0.16	0.09	0.00	0.13	-0.18*	-0.06
11	BATH (H_{10})	0.20	0.04	0.15	0.66**	-0.86**	0.11	0.09	-0.12	0.05
12	SMOOTH (H_{11})	0.04	-0.10	-0.55**	-0.20*	0.60**	-0.01	-0.10	0.08	0.05
13	MANOWN1 (H_{12B1})	-0.04	-0.06	-0.06	0.01	0.06	0.14	0.01	-0.13	0.09
14	MANOWN2 (H_{12B2})	-0.13	-0.20*	-0.02	0.05	-0.02	0.01	-0.07	-0.04	0.04
15	MANOWN3 (H_{12B3})	-0.16	-0.23*	0.08	-0.07	0.02	0.03	-0.06	-0.05	0.03
16	OUTCON (H_{13})	0.12	0.21*	0.18*	-0.04	-0.13	0.09	-0.12	0.10	-0.29**
17	SIZE (H_{16})	-0.08	0.04	0.21*	0.06	-0.20*	-0.12	-0.10	-0.00	0.06

*****, ****** denote significance at the 0.05, and 0.01 level, respectively (two-tailed).

Table 9.1 (continue): Pearson product-moment correlation coefficients

	Variable	10	11	12	13	14	15	16	17	
10	CEOTENURE (H_9)	1.00	0.13**	-0.04	0.06*	-0.03	-0.09**	-0.00	0.11**	
11	BATH (H_{10})		1.00	0.12**	-0.06*	-0.06*	-0.04	0.08**	0.16**	
12	SMOOTH (H_{11})			1.00	0.04	0.04	0.04	-0.06*	-0.08**	
13	MANOWN1 (H_{12B1})				1.00	0.69**	0.37**	-0.54**	-0.42**	
14	MANOWN2 (H_{12B2})					1.00	0.67**	-0.60**	-0.33**	
15	MANOWN3 (H_{12B3})						1.00	-0.47**	-0.25**	
16	OUTCON (H_{13})							1.00	0.28**	
17	SIZE (H_{16})								1.00	

*****, ****** denote significance at the 0.05, and 0.01 level, respectively (two-tailed).

9.4 Regression results: Recognition choice related to reporting zero goodwill impairment

Table 9.2 reports the results of binary logistic regression for Model A and Model B. Initially, the analysis of the two models, i.e. the full model is based on 108 companies (see Table 9.2). However, as shown in Table 9.2, the full models, both for Model A and Model B, are non-significant with p-values greater than 0.10. The Chi-square values for Model A and Model B are 21.866 and 17.977 respectively. According to Menard (1995: 56), a non-significant regression model indicates that the explanatory variables of the model contribute no more than chance to the explanation of the dependent variable. This occurs for two reasons, namely, a small number of observations, and a large number of variables in the model (Menard, 1995: 56-57).

From Table 9.2, it is observed that the small number of observations and the large number of variables tested in the present chapter have resulted in the full model not representing the best fit model to explain companies' motives in recognising zero goodwill impairment when their market values are below the book values of their net assets for three consecutive years. Section 9.4.1 discusses these two issues and the regression diagnostic test executed to solve the issue. Section 9.4.2 continues with the second regression diagnostic test. Section 9.4.3 discusses the overall goodness-of-fit of the models and, finally, Section 9.4.4 discusses the sensitivity analysis carried out.

Table 9.2: Binary logistic regression models: Factors influencing the recognition choice related to reporting zero goodwill impairment

	Predicted Sign	The results of coefficients (Wald statistics)					
		Model A			Model B		
		Full model (as in Section 9.3)	Diagnostics tests		Full model (as in Section 9.3)	Diagnostics tests	
			Test I	Test II		Test I	Test II
Observations (N)		108	116	113	108	116	114
Intercept		1.154 (0.063)	-1.570 (0.176)	0.048 (0.000)	5.823 (2.292)	3.456 (1.572)	**5.322 (3.275)***
Economic factors							
ΔSALES (H_1)	+	-0.177 (0.013)	0.910 (0.436)	1.823 (1.329)	0.513 (0.118)	1.269 (0.894)	2.361 (2.404)
Log10(0.4- $EARNINGS_{PreGWILcurrent}$)[1] ($H_{2B}$)	+	**-11.800 (3.156)***	**-10.726 (3.863)****	**-12.190 (4.137)****	-	-	-
$\Delta EARNINGS_{preGWIL}$($H_3$)	+	-	-	-	6.104 (1.848)	**5.999 (3.080)***	**7.626 (4.339)****
ΔOCF (H_4)	+	**-3.657 (2.715)***	-2.639 (1.970)	**-6.176 (5.894)****	**-3.809 (3.035)***	-2.660 (2.084)	**-5.654 (6.021)****
BTM (H_5)	-	0.007 (0.003)	0.064 (0.273)	0.112 (0.664)	-0.084 (0.410)	-	-
GWB (H_6)	-	-0.798 (0.054)	-	-	-2.412 (0.561)	-2.245 (0.812)	-3.054 (1.367)
Contracting perspective							
DEBTRATIO (H_7)	?	2.039 (1.209)	1.608 (1.048)	1.535 (0.793)	0.812 (0.230)	0.631 (0.205)	0.772 (0.265)

[1] When $EARNINGS_{PreGWILCurrent}$ is transformed into Log10(0.4- $EARNINGS_{PreGWILCurrent}$], the direction of the current year pre-write-off earnings changes. The negative current year pre-write-off earnings are transformed to positive current year pre-write-off earnings, while the positive current year pre-write-off earnings are transformed to negative current year pre-write-off earnings. For this reason, the beta coefficients for Log10(0.4- $EARNINGS_{PreGWILCurrent}$] is negative. In interpreting the result, this direction is changed back to its initial direction, which is positive.

Table 9.2 (continue): Binary logistic regression models: Factors influencing the recognition choice related to reporting zero goodwill impairment

	Predicted Sign	The results of coefficients (Wald statistics)					
		Model A			Model B		
		Full model (as in Section 9.3)	Diagnostics tests		Full model (as in Section 9.3)	Diagnostics tests	
			Test I	Test II		Test I	Test II
$\Delta CEO_{Current/prior}$ (H_8)	-	0.196 (0.033)	-	-	-0.057 (0.003)	-	-
CEOTENURE (H_9)	+	-0.016 (0.142)	-	-	-0.008 (0.039)	-	-
BATH (H_{10})	+	-1.763 (0.071)	-1.445 (0.070)	-0.369 (0.004)	-	-	-
SMOOTH (H_{11})	-	-3.081 (0.165)	-	-	-7.848 (0.696)	-6.000 (0.628)	-9.124 (1.368)
Ownership structure							
MANOWN1 (H_{12B1})	?	0.043 (0.079)	-	-	0.040 (0.069)	-	-
MANOWN2 (H_{12B2})	?	0.029 (0.252)	-	-	0.022 (0.148)	-	-
MANOWN3 (H_{12B3})	?	-0.102 (2.642)	-	-	-0.079 (1.946)	-	-
OUTCON (H_{13})	?	0.021 (1.168)	**0.025 (4.049)****	**0.038 (6.716)*****	0.017 (0.877)	**0.023 (3.318)***	**0.029 (4.726)****

*, ** denote significance at the 0.05, and 0.01 level, respectively (two-tailed).

Table 9.2 (continue): Binary logistic regression models: Factors influencing the recognition choice related to reporting zero goodwill impairment

	Predicted Sign	The results of coefficients (Wald statistics)					
		Model A			Model B		
		Full model (as in Section 9.3)	Diagnostics tests		Full model (as in Section 9.3)	Diagnostics tests	
			Test I	Test II		Test I	Test II
SIZE (H_{16})	?	-0.509 (2.700)	-0.293 (1.865)	**-0.497 (4.314)****	-0.405 (1.846)	-0.272 (1.553)	**-0.422 (3.263)***
INDUSTRYG5 (H_{17}) – Industrial and basic materials	?		-	-		-	-
2 - Consumer goods and services		-0.323 (0.277)	-	-	-0.468 (0.620)	-	-
3 – Financials		0.899 (0.821)	-	-	0.365 (0.169)	-	-
4 - Utilities, health, Oil and Gas		-1.381 (0.961)	-	-	-1.307 (0.939)	-	-
5 - Technology and Telecom.		**-2.104 (3.039)***	-	-	**-2.115 (3.229)***	-	-
ADD (H_{19})	**-**	0.822 (0.732)	-	-	0.703 (0.593)	-	-
-2 Log likelihood		109.396	125.664	108.309	113.284	129.723	116.740
Chi-square		21.866 **NS**	**14.674***	**24.472*****	17.977**NS**	10.615 **NS**	**18.604****
Hosmer-Lemeshow		0.707	0.658	0.315	0.854	0.447	0.342
Cox and Snell R Square		0.183	0.119	0.195	0.153	0.087	0.151
Nagelkerke R Square		0.261	0.169	0.282	0.218	0.125	0.217

*****, ****** denote significance at the 0.05, and 0.01 level, respectively (two-tailed).

9.4.1 Regression diagnostic test I: Small number of observations

The first regression diagnostic test is carried out because of the small number of observations. Long (1997: 53-54) explains that it is risky to apply the maximum likelihood (the estimation procedure in logistic regression model) if the number of observations is smaller than 100. This is because the maximum likelihood estimators may not necessarily be good estimators in a small observation (Long, 1997: 53-54). He (p. 54) added that if there are many parameters in the model, then more observations are needed. As a rule of thumb, Green (1991: 508) and Field (2009: 222) suggested that the minimum number of observation should be 50 + 8k, where k is the number of variables tested.

In the present chapter, the number of observations cannot be increased. This is because the 108 companies analysed in the full model represent the total population of companies which fulfil the selection criteria (see Figure 9.2). Thus, to reduce the risk of flawed estimators, the number of variables tested needs to be reduced. Following the suggestion made by Greene (1991), in the Diagnostic test I, the number of variables to be included in the regression model is reduced to eight (i.e. applying Greene (1991)'s formula of 50 + 8k = 108). Using the general to specific modelling strategy as explained by Field (2009: 213), variables are dropped from the full model (as shown in Table 9.2) one at a time until the number of variables is reduced to 8. At the same time, because of the lack of companies for ΔCEO, ADD, and INDUSTRYG5, these variables are also dropped from the model (see Section 9.2.2). In dropping these variables, two criteria apply. Firstly, these are the least significant variables, and secondly, the dropping of these variables does not lead to a failure in addressing any of the five research questions specified in Section 9.1. As an example, although debt ratio is non-significant, it is retained in the model as it is the only variable employed to test the debt hypothesis. Thus, as shown in Table 9.2, in Model A and Model B, the Diagnostic test I consists of 116 observations with eight test variables. Reducing the number of variables tested has improved Model A as its

Chi-square value is 14.674 and is marginally significant at p-value less than 0.10. However, the Chi-square value for Model B is non-significant.

9.4.2 Regression diagnostic test II: Influential observations

The second diagnostic test carried out is based on the argument put forward by Menard (2002) that influential observations may mislead the result of the binary logistic regression. Therefore, in Diagnostic test II, using the model derived from the Diagnostic test I, influential observations are excluded from the analysis. This is done using the Casewise listing of residuals in SPSS where standardised residuals which are greater than two are identified (Tarling, 2009: 75). In Model A under the Diagnostic test I, three cases which reported standardised residuals greater than two are deleted; in Model B under the Diagnostic test I, two cases which reported standardised residuals greater than two are deleted. Accordingly, as shown in Table 9.2, in Model A under the Diagnostic test II, the number of observation is based on 113 companies, and in Model B under the Diagnostic test II, the number of observation is based on 114 companies.

9.4.3 Assessing the overall model

Comparing the overall fit of the full model, Diagnostic test I, and Diagnostic test II (see Table 9.2), it is observed that in Model A under Diagnostic test I, by reducing the number of test variables, the overall fit of the model is improved. Additionally, by solving the issue of influential observations under Diagnostic test II, the overall fit for both Model A and Model B has greatly improved. Thus, because of the small number of observations analysed and the issue of influential observations, Model A and Model B (derived from Diagnostics test II) are the two best models which could help explain companies' motives in recognising zero goodwill impairment in a situation where their market values are below the book values of their net assets for three consecutive years.

9.4.4 Sensitivity analysis – Current year pre-write-off earnings

Sensitivity analysis for current year pre-write-off earnings ($EARNINGS_{PreGWILcurrent}$) is conducted in order to assess whether empirical result of the variable would be sensitive to the specific year of analysis. This is done by substituting the variable with prior year pre-write-off earnings ($EARNINGS_{PreGWILprior}$) (see Appendix 9.3). The results of the sensitivity analysis reveal that the new variable is statistically significant in Model A and the Diagnostic test II; the variable is marginally significant (at p-value less than 0.10) in the Diagnostic test I. This point will be discussed further in Section 9.5.1.1.

9.5 Discussion of the result for a recognition choice related to reporting zero goodwill impairment

This section discusses results of the five factors which have been employed to test the recognition choice related to reporting zero goodwill impairment. These factors are: economic factors (see Section 9.5.1), the contracting perspective (see Section 9.5.2), the opportunistic behaviour perspective (see Section 9.5.3), ownership structures (see Section 9.5.4), and company-specific factors (see Section 9.5.5).

As noted in Section 2.2.2, Omar and Mohd-Saleh (2011) conducted a recognition study related to goodwill impairment by Malaysian listed companies. However, the result of the present chapter could not be compared with them because the focus of their study differs from the present study. Omar and Mohd-Saleh (2011: 400 and 402) examined the recognition of goodwill impairment by the total population of Malaysian listed companies during the initial year of implementing FRS 3 (see Section 2.2.2 for detail), whereas the present recognition study focuses on companies which recognise zero goodwill impairment in a specific setting (i.e. companies' market values lower than the book values of their net assets for three consecutive years).

9.5.1 Research Question 9: Economic factors

Variables employed to test for the influence of the economic factors on the recognition choice related to reporting zero goodwill impairment are: ΔSALES, ΔOCF, BTM, GWB, $EARNINGS_{PreGWILcurrent}$, $\Delta EARNINGS_{preGWIL}$, and $EARNINGS_{PreGWILPrior}$ (see Sections 5.4 to 5.4.5). The results reveal that four variables – $EARNINGS_{PreGWILcurrent}$, $EARNINGS_{PreGWILprior}$, $\Delta EARNINGS_{preGWIL}$, and ΔOCF - are found statistically significant in explaining the recognition choice related to reporting zero goodwill impairment in companies which have market values below the book values of their net assets for three consecutive years. The remaining three variables - ΔSALES, BTM and GWB - are found non-significant in all of the models tested (see Table 9.2). Therefore, the null hypotheses set in $H_{1\text{-}Null}$ for ΔSALES (see Section 5.4.1), in $H_{5\text{-}Null}$ for BTM (see Section 5.4.4), and in $H_{6\text{-}Null}$ for GWB (see Section 5.4.5) cannot be rejected.

Next, Sections 9.5.1.1 to 9.5.1.3 discuss the statistically significant result for the pre-write-off earnings (i.e. $EARNINGS_{PreGWILcurrent}$ and $EARNINGS_{PreGWILprior}$), change in pre-write-off earnings from prior year to current year ($\Delta EARNINGS_{PreGWIL}$), and change in operating cash flows from prior year to current year (ΔOCF), respectively.

9.5.1.1 Companies' pre-write-off earnings ($EARNINGS_{PreGWILcurrent}$ and $EARNINGS_{PreGWILprior}$)

Current year pre-write-off earnings ($EARNINGS_{PreGWILcurrent}$) is found statistically significant in Model A (i.e. the full model, Diagnostics test I, and Diagnostics test II) in a positive direction as predicted (see Table 9.2). The result of the sensitivity analysis also shows a statistically significant positive relationship between prior year pre-write-off earnings ($EARNINGS_{PreGWILprior}$) and the recognition choice related to reporting zero goodwill impairment (see Appendix 9.3).

The positive direction observed for the current year pre-write-off earnings provides support to the economic factors (see H_{2B} in Appendix 1 of the thesis), suggesting that the higher the current year pre-write-off earnings, the more likely it is that the companies will recognise zero goodwill impairment. This result indicates that when comparing two groups of companies, i.e. the test group vs. the control group, which experienced similar market capitalisation indication (i.e. their companies market values are lower than the book values of their net assets at the balance sheet date) for three consecutive years, the test group of companies recognised zero goodwill impairment because their current year pre-write-off earnings are higher than the control group of companies. This result suggests that the test group chose to go against the market capitalisation indication which exists for three consecutive years (by recognising zero goodwill impairment) because their current year pre-write-off earnings are better than the control group. Therefore, in the case of the current year pre-write-off earnings, this finding indicates that the recognition choice related to reporting zero goodwill impairment exercised by the test group reflects the economic factors.

9.5.1.2 Change in pre-write-off earnings ($\Delta EARNINGS_{preGWIL}$)

Change in pre-write-off earnings from prior year to current year ($\Delta EARNINGS_{preGWIL}$) is found marginally significant (at p-value less than 0.10) in Model B - Diagnostics test I, and statistically significant in Model B - Diagnostics test II (see Table 9.2). The positive direction observed for $\Delta EARNINGS_{preGWIL}$ provides support to the economic factors (see H_3 in Appendix 1 of the thesis). This result suggests that the better the performance of a company, which is reflected as positive value for $\Delta EARNINGS_{preGWIL}$, the higher the likelihood they will exercise recognition choice related to reporting zero goodwill impairment. In this context, when comparing two groups with similar experiences of market capitalisation indication for three consecutive years, the test group of companies are found to have recognised zero goodwill impairment in order to reflect the

companies' better performance. This result suggests that the test group chose to go against the market capitalisation indication which exists for three consecutive years (by recognising zero goodwill impairment) because their change in pre-write-off earnings are better than the control group. Therefore, for the change in pre-write-off earnings, this finding indicates that the recognition choice related to reporting zero goodwill impairment exercised by the test group reflects the economic factors.

9.5.1.3 Change in operating cash flows (∆OCF)

Change in operating cash flows from prior year to current year (ΔOCF) is found statistically significant in explaining the recognition choice related to reporting zero goodwill impairment in Model A - Diagnostic test II, and in Model B - Diagnostic test II (see Table 9.2). However, the variable is found significant in a negative direction, which is contrary to the prediction set for the economic factors (see H_4 in Appendix 1 of the thesis). This result indicates that in comparing two groups of companies - the test group vs. the control group, the test group of companies recognised zero goodwill impairment because changes in their operating cash flows from prior year to current year are lower than those of the control group. Thus, this result suggests that the test group chose to go against the market capitalisation indication which exists for three consecutive years (by recognising zero goodwill impairment) because their change in operating cash flows from prior year to current year are worse than the control group.

The result for the change in operating cash flows from prior year to current year discussed in the above paragraph conflicts with the results for the current year pre-write-off earnings (discussed in Section 9.5.1.1) and change in pre-write-off earnings from prior year to current year (discussed in Section 9.5.1.2). To understand these conflicting results, a detailed inspection of the change in operating cash flows for all of the 108 companies is carried out. The inspection reveals no unusual pattern of the operating cash flows. Companies which

recognised zero goodwill impairment have lower change in operating cash flows from prior year to current year than companies which recognised goodwill impairment losses. Accordingly, the result of the change in operating cash flows indicates that the recognition choice related to reporting zero goodwill impairment exercised by the test group do not reflects the economic factors.

Because change in operating cash flows measures the cash-related performance attributes (see Section 5.4.3), it is possible that the managers are recognising zero goodwill impairment in the belief that the company's performance (i.e. in terms of its operating cash flows) will improve in the future.

9.5.2 Research Question 10: Contracting perspective

Debt ratio, the only variable testing the contracting perspective is non-significant in explaining the recognition choice related to reporting zero goodwill impairment (see Table 9.2). Therefore, the null hypothesis for $H_{7\text{-Null}}$ (see Section 5.5) cannot be rejected. As discussed in Section 8.7, the non-significance of DEBTRATIO in the measurement study could be due to the indirect proxy employed. Thus, similar to the measurement study, the recognition study also could not provide evidence on the applicability of the contracting perspective in explaining the recognition choice related to reporting zero goodwill impairment for companies which have their market values lower than the book values of their net assets for three consecutive years.

9.5.3 Research Question 11: Opportunistic behaviour perspective

Four variables are employed to test the applicability of an opportunistic behaviour perspective in explaining the recognition choice related to reporting zero goodwill impairment. These variables are: change in CEO, CEO tenure, big bath reporting behaviour, and earnings smoothing activities (see Sections 5.6.1 to 5.6.4). Table 9.2 shows that none of these variables is statistically significant in the binary logistic regression models employed - Model A and Model B. Therefore,

the null hypothesis set in $H_{8\text{-Null}}$ for change in CEO (see Section 5.6.1), $H_{9\text{-Null}}$ for CEO tenure (see Section 5.6.2), $H_{10\text{-Null}}$ for big bath reporting (see Section 5.6.3), and $H_{11\text{-Null}}$ for earnings smoothing (see Section 5.6.4) cannot be rejected. Hence, the results of the present chapter could not provide evidence that managers exercised recognition choice related to reporting zero goodwill impairment for opportunistic reporting.

There are two possible reasons for the non-significance of these variables. Firstly, for the CEO tenure, as discussed in detail in Section 8.8.2, the variable which measured the number of years a CEO held a position is an indirect proxy for whether a CEO is responsible in business acquisitions which lead to an existence of goodwill.

Secondly, for ΔCEO, the non-significance of this variable means that the null hypothesis cannot be rejected. This could occur because the small number of observations and less variation in the test group and the control group. As shown in Appendix 9.2, only 10 CEO changes took place of which five are from the test group and five from the control group.

A point for discussion is that big bath reporting (BATH) is found non-significant in Models A and B (see Table 9.2). However, in the sensitivity analysis using prior year pre-write-off earnings (see Appendix 9.3), the variable is found statistically significant, in a positive direction, in the recognition choice related to reporting zero goodwill impairment. The positive direction observed suggests that companies which recognised zero goodwill impairment (the test group) reported lower BATH than companies which recognised goodwill impairment losses (the control group). This result indicates that the variable, BATH, test companies' motives in reporting goodwill impairment losses and not companies' motives in reporting zero goodwill impairment.

9.5.4 Research Question 12: Ownership structures

Two variables are employed to test the influence of company ownership structures, i.e., managerial ownership ($MANOWN_{Non\text{-}monotonic}$) and outside ownership concentration (OUTCON). Table 9.2 reports that $MANOWN_{Non\text{-}monotonic}$ (i.e. MANOWN1, MANOWN2, and MANOWN3) is non-significant in the recognition choice related to reporting zero goodwill impairment. Accordingly, the null hypothesis for $H_{12B\text{-}Null}$ (see Section 5.7.1) cannot be rejected.

Meanwhile, outside ownership concentration (OUTCON) is statistically significant in Models A and B, for both Diagnostics test I and Diagnostics test II. The statistically significant result, in a positive direction, suggests that the higher the outside ownership concentration, the more likely it is for the companies to recognise zero goodwill impairment. This result indicates that outside ownership concentration play an influential role in recognition choice related to reporting zero goodwill impairment in companies which have market values below the book values of their net assets for three consecutive years. Hence, the result suggests that the test group chose to go against the market capitalisation indication which exists for three consecutive years (by recognising zero goodwill impairment) because their outside ownership concentration is higher than the control group.

The descriptive analysis in Appendix 9.1 shows the outside ownership concentration for the test group has a mean value of 0.47 (median value of 0.49) while the control group has a mean value of 0.42 (median value of 0.45). Looking at the descriptive analysis and the regression result from another perspective, the finding suggests that despite an indication that goodwill may be impaired which prevail for three consecutive years in these companies, the managers choose to go against the market capitalisation indication by recognising zero goodwill impairment because of the high concentration of outside ownership. This implies that in companies with high outside ownership concentration, when recognising zero goodwill impairment, the managers are less influenced by the market capitalisation indication which exists for three consecutive years.

9.5.5 Company-specific factors (control variables)

Three variables are employed to control for company-specific factors, i.e. SIZE, Industry (INDUSTRYG5), and addition of goodwill (ADD). Apart from SIZE, the other two variables are found non-significant in the recognition choice related to reporting zero goodwill impairment. Accordingly, the null hypotheses set in $H_{17\text{-}Null}$ for INDUSTRYG5 (see Section 5.9.2) and $H_{19\text{-}Null}$ for ADD (see Section 5.9.4) cannot be rejected.

Because of the mixed results documented by prior studies, there is no prediction sign formed on the association between SIZE and the recognition choice related to reporting zero goodwill impairment (see Appendix 1 of the thesis). The regression result reported in Table 9.2 shows that size is statistically significant in a negative direction, suggesting that the greater the company size, the lower the likelihood of recognising zero goodwill impairment.

9.6 Summary and conclusions

This chapter has analysed factors influencing the recognition choice related to reporting zero goodwill impairment in a specific setting whereby companies have their market values lower than the book values of their net assets for three consecutive years. In this setting, companies which recognise zero goodwill impairment are considered as exercising a recognition choice related to reporting zero goodwill impairment. They are referred to as a test group and are being tested against a control group of companies. The control group is a group of companies which experience similar condition (i.e. their market values are below the book values of the net assets for three consecutive years); however, they report goodwill impairment losses at the end of the third year.

Factors influencing the recognition choice are grouped into economic factors (see Section 9.5.1), contracting perspective (see Section 9.5.2), opportunistic behaviour perspective (see Section 9.5.3), ownership structures (see Section

9.5.4), and company-specific factors (see Section 9.5.5). In analysing these factors, two binary logistic models have been constructed (i.e. Model A, and Model B) with two regression diagnostics tests undertaken (see Sections 9.4.1 to 9.4.2).

Overall, by recognising zero goodwill impairment when companies' market values are below the book values of their net assets for three consecutive years, the managers of such companies chose to go against the market capitalisation indication which is stated in FRS 136 *Impairment of Assets*. This choice can be explained partly by three main factors. These are: (i) economic factors (i.e. current year pre-write-off earnings, prior year pre-write-off earnings, change in pre-write-off earnings from prior year to current year, and change in operating cash flows from prior year to current year), (ii) ownership structures (i.e. outside ownership concentration), and (iii) size of company.

The results for the current year pre-write-off earnings, prior year pre-write-off earnings, and change in pre-write-off earnings from prior year to current year suggest that the recognition choice exercised reflect the economic factors. On the other hand, the result for the change in operating cash flows from prior year to current year suggests that the recognition choice exercised does not reflect the economic factors. Similarly, for the outside ownership concentration, the result suggests that companies in the test group chose to go against the market capitalisation indication which exists for three consecutive years (by recognising zero goodwill impairment) because of their higher outside ownership concentration compared to companies in the control group.

At the same time, the binary logistic regression results could not provide evidence on the applicability of the contracting perspective, or the opportunistic behaviour perspective, in explaining the recognition choice related to reporting zero goodwill impairment.

The results of the present chapter, therefore, contribute to the literature of accounting choices related to goodwill impairment in three ways.

Firstly, as discussed in the above paragraphs, the recognition study provides empirical evidence on the influence of the economic factors (i.e. companies' pre-write-off earnings, and change in operating cash flows) and size of company on the recognition choice related to reporting zero goodwill impairment.

Secondly, it provides new empirical evidence on the influence of outside ownership concentration on the recognition choice related to reporting zero goodwill impairment. The result reveals that the higher the outside ownership concentrated, the more likely it is for the companies to exercise the recognition choice related to reporting zero goodwill impairment.

Thirdly, it provides Malaysian literature, for the first time, with a research setting designed to capture evidence of a recognition choice related to reporting zero goodwill impairment exercised by Malaysian listed companies after the implementation of FRS 3. This setting could also be tested in listed companies in other countries which have concentrated ownership, such as the Asian developing countries.

Appendix 9.1: Descriptive statistics for the continuous variables

	All observations (N = 132 companies)					Test group Choice (N = 96)			Control group No choice (N = 36)			Test of differences	
	N	Missing values	Mean	Median	SD	Mean	Median	SD	Mean	Median	SD	Mean p-value	Median p-value
Economic factors													
ΔSALES (H_1)	130	2	0.025	0.005	0.182	0.037	0.014	0.160	(0.007)	(0.005)	0.230	0.302	0.234
$EARNINGS_{PriorPreGWIL}$	130	2	0.023	0.028	0.058	0.028	0.031	0.057	0.010	0.019	0.059	0.122	0.144
$EARNINGS_{PreGWILCurrent}$ (H_{2B})	130	2	0.017	0.022	0.073	0.029	0.024	0.046	(0.017)	0.019	0.112	**0.022**	**0.120**
$\Delta EARNINGS_{preGWIL}$($H_3$)	130	2	(0.006)	0.001	0.074	0.002	0.001	0.055	(0.027)	0.003	0.107	0.135	0.517
ΔOCF (H_4)	131	1	0.009	0.015	0.134	0.003	0.018	0.127	0.024	0.012	0.152	0.436	0.892
BTM (H_5)	132	0	3.149	2.550	1.979	3.154	2.545	1.989	3.136	2.600	1.982	0.963	0.818
GWB (H_6)	131	1	0.044	0.016	0.082	0.040	0.014	0.084	0.054	0.019	0.074	0.385	0.162
Contracting perspective													
DEBTRATIO (H_7)	128	4	0.257	0.260	0.166	0.254	0.251	0.162	0.266	0.265	0.177	0.716	0.783
Opportunistic behaviour perspective													
CEOTENURE (H_9)	123	9	8.894	7.000	6.792	9.281	7.000	6.695	7.882	6.000	7.040	0.309	0.141
BATH (H_{10})	130	2	(0.019)	0.000	0.059	(0.012)	0.000	0.034	(0.039)	0.000	0.097	0.110	0.204
SMOOTH (H_{11})	130	2	0.013	0.000	0.037	0.014	0.000	0.038	0.011	0.000	0.034	0.680	0.576
Ownership structure													
MANOWN1 (H_{12B1})	120	12	3.027	4.650	2.238	2.965	4.235	2.241	3.182	5.000	2.258	0.635	0.541
MANOWN2 (H_{12B2})	120	12	5.158	0.000	7.557	4.538	0.000	7.001	6.726	1.055	8.727	0.154	0.349
MANOWN3 (H_{12B3})	120	12	1.927	0.000	5.809	1.361	0.000	4.246	3.360	0.000	8.502	0.198	0.195
OUTCON (H_{13})	121	11	45.751	47.050	19.780	47.105	49.130	19.669	42.286	45.485	19.932	0.230	0.235
Control variables													
SIZE (H_{16})	132	0	12.647	12.545	1.039	12.601	12.525	1.105	12.770	12.555	0.839	0.408	0.300

Appendix 9.2: Descriptive statistics for the categorical variables

Variables	Number of observations (count)				Chi-square test of independence (Choice vs. No choice)	
	All	Missing values	Test group - Choice	Control group - No choice	Value	Sig. (2-tailed test)
Contracting perspective						
$\Delta CEO_{Current/prior}$ (H_8)	123	9				
- Change			5	5		
- No Change			83	30	2.482	0.115
Control variables						
ADD (H_{19})	132	-				
- Yes			11	4	0.016	0.901
- No			84	33		
INDUSTRYG5 (H_{17}) - (1) Industrials and Basic materials			42	14		
(2) Consumer goods and services			32	12		
(3) Financials			15	4	3.621	0.460
(4) Utilities, healthcare,Oil and gas			3	1		
(5) Technology and Telecommunication			4	4		
Total	131	1	96	35		

Appendix 9.3: Sensitivity analysis for current year pre-write-off earnings by replacing it with prior year pre-write-off earnings

	Sign	The results of coefficients (Wald statistics)		
		Model A		
		Full model (as in Section 9.3)	Diagnostics tests	
			Test I	Test II
Observations (N)		108	116	113
Intercept		6.334 (2.591)	4.174 (2.292)	**6.718 (4.802)****
Economic factors				
ΔSALES (H_1)	+	-0.119 (0.006)	0.994 (0.529)	1.838 (1.367)
$EARNINGS_{PreGWILprior}$	+	**16.611 (4.847)****	**7.710 (3.625)***	**9.151 (4.469)****
ΔOCF (H_4)	+	-0.119 (2.557)	-2.814 (2.192)	**-6.492 (6.465)****
BTM (H_5)	-	16.611 (0.139)	0.024 (0.043)	0.065 (0.248)
GWB (H_6)	-	-0.295 (0.007)	-	-
Contracting perspective				
DEBTRATIO (H_7)	?	2.224 (1.472)	1.276 (0.706)	1.213 (0.552)
Opportunistic behaviour perspective				
$\Delta CEO_{Current/prior}$ (H_8)	-	0.217 (0.038)	-	-
CEOTENURE (H_9)	+	-0.021 (0.257)	-	-
BATH (H_{10})	+	**9.514 (3.125)***	**8.157 (4.662)****	**10.589 (6.812)*****
SMOOTH (H_{11})	-	13.840 (1.745)	-	-
Ownership structure				
MANOWN1 (H_{12B1})	?	0.037 (0.056)	-	-
MANOWN2 (H_{12B2})	?	0.027 (0.207)		
MANOWN3 (H_{12B3})	?	**-0.108 (2.781)***		
OUTCON (H_{13})	?	0.022 (1.243)	**0.022 (3.145)***	**0.034 (5.756)****
Control variables				
SIZE (H_{16})	?	**-0.572 (3.324)***	-0.362 (2.702)	**-0.590 (5.622)****
INDUSTRYG5 (H_{17}) 1 - Indust and basic mat.	?	-	-	-

	Sign	The results of coefficients (Wald statistics)		
		Model A		
		Full model (as in Section 9.3)	Diagnostics tests	
			Test I	Test II
2 - Consumer goods and services		-0.226 (0.132)	-	-
3 – Financials		1.099 (1.196)	-	-
4 - Utilities, health, Oil and Gas		-1.495 (1.112)	-	-
5 - Technology and Telecom.		**-2.013 (2.747)***	-	-
ADD (H_{19})	-	0.910 (0.839)	-	-
-2 Log likelihood		106.917	125.873	107.793
Chi-square		24.34 **NS**	**14.465***	**24.987*****
Hosmer-Lemeshow		0.736	0.488	0.485
Cox and Snell R Square		0.202	0.117	0.198
Nagelkerke R Square		0.287	0.167	0.287

*, **, *** denote significance at the 0.10, 0.05, and 0.01 level, respectively (two-tailed)

NS denotes Not significant

Chapter 10: Discussion and Conclusion

10.1 Introduction

This concluding chapter has two main purposes. Firstly, it reviews briefly the achievement of the four research objectives, which have been formulated at the outset of this thesis (see Section 1.3). Secondly, it discusses the contributions of the study in relation to the research objectives and extant literatures, explains its limitations, and offers suggestions for future research.

This chapter is structured into six sections including the introduction. Section 10.2 reiterates the overall aim of this thesis and the four research objectives. Section 10.3 describes briefly the achievement of the four research objectives. At the end of the section, a synthesis of accounting choices related to goodwill impairment is presented. Section 10.4 discusses the contributions of the thesis. Section 10.5 explains the limitations of the study. Section 10.6 concludes the chapter by offering suggestions for future research.

10.2 Research aim and objectives

This thesis has sought to analyse accounting choices related to goodwill impairment exercised by listed companies in Malaysia in the first three years of the implementation of FRS 3 *Business Combinations* (i.e. 2006/7 to 2008/9) (see Section 1.3). Table 10.1 reiterates the four research objectives of the thesis as set out in Section 1.3. Next, Section 10.3 describes briefly the achievement of the four research objectives.

Table 10.1: Summary of research objectives

Theoretical research objective		
1.	To assess the applicability of theories of accounting choice in explaining the implementation decisions related to goodwill impairment by Malaysian listed companies.	
Specific research objectives		**Empirical chapters**
2.	To explore, via the annual reports of companies, types of accounting choice related to goodwill impairment exercised by Malaysian listed companies after the implementation of FRS 3.	Disclosure study - Chapter7
3.	To analyse factors influencing managers' decisions when determining the magnitude of goodwill impairment losses divided by prior year total assets (including goodwill), and zero otherwise reported on the income statement.	Measurement study - Chapter 8
4.	To analyse factors influencing the recognition choice related to reporting zero goodwill impairment exercised by Malaysian listed companies in a situation where companies' market values are lower than the book values of their net assets for three consecutive years.	Recognition study - Chapter 9

10.3 Achievement of the four research objectives

This section describes briefly[77] how the four research objectives of this thesis (see Table 10.1) have been achieved by answering 12 research questions (see Section 1.3). At the end of the section, a synthesis of accounting choices related to goodwill impairment exercised by Malaysian listed companies is presented (see Section 10.3.5).

10.3.1 Objective 1: Theoretical research question

The first research objective has sought to assess the applicability of theories of accounting choice in explaining the implementation decisions related to goodwill

[77] Detailed discussions of these findings in relation to the extant literature have been carried in each of the empirical chapters (see Chapters 7-9).

impairment by Malaysian listed companies (see Table 10.1), focusing on Research Question 1:

> **How can an investigation of FRS 3, focusing on goodwill impairment by Malaysian listed companies, contribute to the theories of accounting choice?**

Two perspectives of accounting choices have been tested in this thesis, i.e. the opportunistic behaviour perspective (see Sections 8.8 and 9.5.3), and the contracting perspective (see Sections 8.7 and 9.5.2). For the opportunistic behaviour perspective, the measurement study has provided empirical evidence on the applicability of this perspective in explaining the measurement of goodwill impairment by Malaysian listed companies. The evidence is presented through the statistically significant results for three variables, i.e. change in CEO, big bath reporting, and earnings smoothing (see Section 10.3.3 for detail discussion). However, in the recognition study, the non-significance results of these three variables could not provide evidence on the applicability of the opportunistic behaviour perspective in explaining the recognition choice related to reporting zero goodwill (see Section 10.3.4 for detailed discussion).

For the contracting perspective, the non-significance of the debt ratio, a variable testing the debt hypothesis, both in the measurement and recognition studies suggest that the two studies could not provide evidence on the applicability of the debt hypothesis in explaining the implementation decisions related to goodwill impairment by Malaysian listed companies (see Section 10.4.1.1 for detail).

See Sections 10.4.1 to 10.4.1.2 for detailed discussion of the applicability of these two perspectives of accounting choice.

10.3.2 Objective 2: Disclosure study of goodwill impairment

The second research objective has aimed to explore, via the annual reports of companies, types of accounting choice related to goodwill impairment exercised

by Malaysian listed companies after the implementation of FRS 3 (see Table 10.1). This aim has been achieved in the disclosure study of goodwill impairment by answering two research questions - Research Question 2 and Research Question 3 (detailed below).

Research Question 2:

> **To what extent is the market capitalisation indication (i.e. companies' market values lower than the book values of their net assets at the balance sheet date) an appropriate proxy for an indication that goodwill may be impaired?**

Research Question 2 has been addressed in part one of the disclosure study (see Section 7.2) by comparing two types of information, which represent the observed practice with stated explanation. The data compared are: (i) the market capitalisation indication of companies (i.e. where market values are lower than the book values of net assets at the balance sheet date), and (ii) reasons for companies reporting goodwill impairment (both zero, and goodwill impairment losses) disclosed in the Notes to the Financial Statement (see Section 1.4.1).

The results of part one of the disclosure study show that the market capitalisation indication can be employed as a starting point in identifying types of accounting choice related to goodwill impairment exercised by Malaysian listed companies (see Sections 7.2 and 7.4). However, it cannot be applied as a stand-alone indicator that goodwill might be impaired. This is because the market capitalisation indication does not fully reflect the condition of the cash-generating-units containing goodwill, disclosed in the Notes to the Financial Statement. This finding suggests that to identify the types of accounting choice, further information, in addition to the market capitalisation indication, is needed, such as companies' financial performances and segment results containing goodwill.

Following on from this suggestion, a disclosure framework has been constructed. The disclosure framework takes into account six key items of data: (i) goodwill data, (ii) segment result, (iii) financial performance, (iv) the market capitalisation indication, (v) reasons for reporting goodwill impairment loss disclosed in the Notes to the Financial Statement, and (vi) audit report concerning goodwill (see Figure 6.2 in Section 6.5.2.2).

Using the self-constructed disclosure framework, Research Question 3 has been answered in part two of the disclosure study (see Section 7.3).

Research Question 3:

> **What are the types of accounting choice related to goodwill impairment exercised by Malaysian listed companies which can be identified through detailed analysis of annual reports?**

From the result of part one of the disclosure study, 20 companies which are categorised into Group 2 and reported goodwill impairment losses have been selected. Using the self-constructed disclosure framework, an in-depth analysis of goodwill movement of these 20 companies for the past several years (depending on the traceability of goodwill impairment losses backward from the write-off year to the acquisition year) has been undertaken (see Section 7.3).

The result reveals three types of accounting choice related to goodwill impairment exercised by Malaysian listed companies (see Section 7.3). These are, delayed reporting goodwill impairment losses for four companies (see Section 7.3.1), timing in reporting goodwill write-off from goodwill which arose from an apparent overpayment made at the time of business acquisition for eight companies (see Section 7.3.2), and systematic reduction of goodwill balance for two companies (see Section 7.3.3). The first two types of accounting choice reflect the exercise of managerial discretion in terms of timing in reporting the impairment losses. The last type of accounting choice reflects companies' attempt in perpetuating the old system of amortising its goodwill balance systematically every year (see Section 7.4).

10.3.3 Objective 3: Measurement study of goodwill impairment

The third research objective has sought to analyse factors influencing managers' decisions when determining the magnitude of goodwill impairment losses divided by prior year total assets (including goodwill), and zero otherwise reported on the income statement (see Table 10.1). Using the total population of Malaysian listed companies implementing FRS 3 in the first three years of the standard taking effect (i.e. 2006/7 to 2008/9), this aim has been achieved in the measurement study of goodwill impairment by answering five research questions (i.e. Research Question 4 to Research Question 8). The following paragraphs specify each of these research questions and briefly review their key findings.

Research Question 4 tests the influence of the economic factors on the measurement of goodwill impairment as follows:

> **To what extent do the decisions of Malaysian listed companies in measuring goodwill impairment indicate that they reflect the underlying economic values of cash-generating-units containing goodwill?**

The key finding for the economic factors is that there is consistent evidence of pre-write-off earnings ($EARNINGS_{PreGWILprior}$, $EARNINGS_{PreGWILCurrent}$, and $\Delta EARNINGS_{preGWIL}$) influencing the measurement of goodwill impairment by Malaysian listed companies (see Section 8.6).

When pre-write-off earnings are measured at one specific point in time (as in $EARNINGS_{PreGWILprior}$ in Section 8.6.2.1, and $EARNINGS_{PreGWILCurrent}$ in Section 8.6.2.2), the statistically significant negative association between the pre-write-off earnings and the reporting of goodwill impairment losses shows that as the pre-write-off earnings increase, lower goodwill impairment losses are reported. This suggests that the managers' decisions when determining the impairment losses reflect companies' economic factors.

However, when the earnings of companies are measured as a change in pre-write-off earnings from prior year to current year (as in $\Delta EARNINGS_{preGWIL}$ – see Section 8.6.2.3), the statistically significant positive association between the change in pre-write-off earnings and the reporting of goodwill impairment losses shows that as change in pre-write-off earnings increase, higher goodwill impairment losses are reported. This result points to the possibility of companies exercising an accounting choice. This is because the decisions when determining the impairment losses do not reflect companies' economic factors.

Detailed discussion of the two conflicting results for companies' pre-write-off earnings is presented in Section 10.4.2.2.

Research Question 5 deals with the contracting perspective as follows:

> **To what extent do the decisions of Malaysian listed companies in measuring goodwill impairment support the contracting perspective?**

In the present study, due to the unavailability of data relating to actual debt covenants, debt ratio (leverage) has been employed as a proxy for companies' closeness to the debt covenant violations (see Section 5.5). The result shows that debt ratio is non-significant in nearly all of the regression models in explaining the measurement of goodwill impairment by Malaysian listed companies (see Section 8.7). Thus, the present study could not provide evidence to support the contracting perspective, in particular, the debt hypothesis.

Detailed discussion of the contracting perspective is presented in Section 10.4.1.1.

Research Question 6 deals with the opportunistic behaviour perspective:

> **To what extent do the decisions of Malaysian listed companies in measuring goodwill impairment support the opportunistic behaviour perspective?**

Four variables have been employed to test the opportunistic behaviour perspective, i.e. CEO tenure, change in CEO, big bath reporting, and earnings

smoothing (see Section 5.6). CEO tenure is found non-significant while the last three variables are found statistically significant in explaining the measurement of goodwill impairment by Malaysian listed companies (see Sections 8.8.1 to 8.8.4). The statistically significant results for these three variables provide evidence to support the opportunistic behaviour perspective.

See Section 10.4.1.2 for the detailed discussion of the opportunistic behaviour perspective.

Research Question 7 tests the influence of ownership structures of companies on the measurement of goodwill impairment:

> **To what extent do the decisions of Malaysian listed companies in measuring goodwill impairment indicate that they reflect companies' ownership structures?**

Two variables are employed to test the ownership structures of companies, i.e. managerial ownership, and outside ownership concentration (see Section 8.9). Both of these variables are found to play influential roles in the measurement of goodwill impairment by Malaysian listed companies.

For managerial ownership, when the board of executive directors collectively increase their shareholding from 0% to less than 5%, lower goodwill impairment losses are reported. However, once the board of directors collectively owns 5% or more of the shares, managerial ownership is statistically non-significant in explaining the measurement of goodwill impairment by Malaysian listed companies (see Section 10.4.2.1 for detailed).

For outside ownership concentration, as the top five outside shareholders (i.e. institutions, blockholders, and other individuals outside the company) increase the proportion of shares held, lower goodwill impairment losses are reported (see Section 8.9.2). Prior studies (e.g. Niehaus, 1989: 271-272; Astami and Tower, 2006: 8) associate an increase in outside ownership concentration with an increase in the monitoring of management by shareholders (see Section 5.7.2).

Following this explanation, the negative association between outside ownership concentration and reporting goodwill impairment losses suggests that as the level of outside ownership concentration increases, indicating increases in outside monitoring, lower goodwill impairment losses are reported.

The final research question for the measurement study, Research Question 8 is as follows:

> **To what extent do the decisions of Malaysian listed companies in measuring goodwill impairment indicate that they reflect the discretion available in FRS 136 *Impairment of Assets*?**

All of the variables testing the discretion related to CGUs and discount rates (i.e. CGU_{01}, $CGU_{Continuous}$, DISCRATE, DISCMULTIPLE, and $DISCRATE_{Disclosed/Not}$) are found non-significant in the measurement of goodwill impairment by Malaysian listed companies (see Section 8.10). Thus, the present study could not find evidence to support the arguments made by prior studies (e.g. Guler, 2007: 11; AbuGhazaleh et al., 2011: 169 and 180), that if managers have an incentive to overstate or understate goodwill impairment losses, they can be selective in applying estimates and judgements while performing an impairment test of goodwill (see Section 4.4).

The non-significance of these variables could be due to managers not exploiting the discretion they have in reporting goodwill impairment losses. Alternatively, because the discretion (e.g. CGUs and discounts rates) is part of the disclosure requirements of FRS 136, and thus readily observable, managers might not make use of this discretion. Instead, they might exercise their discretion through cash flows projections, which companies are not required to disclose in the Notes to the Financial Statement.

10.3.4 Objective 4: Recognition study of goodwill impairment

The fourth research objective has aimed to analyse factors influencing the recognition choice related to reporting zero goodwill impairment exercised by

Malaysian listed companies in a situation where companies' market values are lower than the book values of their net assets for three consecutive years (see Table 10.1). This objective has been addressed in the recognition study of goodwill impairment by focusing on 77 companies (after missing values) which recognised zero goodwill impairment when market values are lower than the book values of their net assets for three consecutive years (see Figure 9.3 in Section 9.2.1). These companies are tested against a control group of companies (31 companies) which experienced a similar condition (i.e. companies which have market values below the book values of their net assets for three consecutive years) but who reported goodwill impairment losses at the end of the third year. The aim of the recognition study has been accomplished by answering four research questions (Research Questions 9 to 12 – see Section 1.3).

Specifically, Research Questions 9 to 12 cover four factors which potentially influence the recognition choice related to reporting zero goodwill impairment. These are: economic factors (in Research Question 9), the contracting perspective (in Research Question 10), the opportunistic behaviour perspective (in Research Question 11), and the ownership structures of companies (in Research Question 12) (see Figure 5.1 in Section 5.2). Overall, the results show that two main factors play influential roles in the recognition choice related to reporting zero goodwill impairment in companies which have market values below the book values of their net assets for three consecutive years. These are: (i) economic factors (i.e. increase in the current year pre-write-off earnings, or increase in change in pre-write-off earnings from prior year to current year, and a decrease in change in operating cash flows from prior year to current year), and (ii) ownership structures (i.e. increase in outside ownership concentration). Also, the recognition study found that the greater the company size (measured in terms of total assets), the lower the likelihood of recognising zero goodwill impairment. However, the recognition study could not provide evidence on the applicability of the contracting perspective and the opportunistic behaviour perspective in explaining the recognition choice related to reporting zero goodwill impairment.

10.3.5 Synthesis of accounting choices related to goodwill impairment exercised by Malaysian listed companies

This thesis has analysed accounting choices related to goodwill impairment exercised by Malaysian listed companies in the first three years of the implementation of FRS 3. The accounting choices are identified by the implementation decisions made by managers (see Section 1.1). Three aspects of the implementation decisions are examined, namely, disclosure, measurement, and recognition of goodwill impairment. In the disclosure study, using a self-constructed disclosure framework, types of accounting choice related to goodwill impairment are identified (see Section 7.3). In the measurement study, accounting choices related to goodwill impairment losses are inferred based on companies' hypothesised motives in reporting goodwill impairment losses (see Section 8.13). In the recognition study, evidence of a recognition choice related to reporting zero goodwill impairment is captured in a specific setting, and factors influencing this choice are analysed (see Section 9.6).

An attempt has been made to synthesise accounting choices related to goodwill impairment exercised by Malaysian listed companies (see Section 8.12.2 for detail). This is done by selecting 10 companies found to be engaging in earnings smoothing, with no change in their CEO, and where the management hold the top 10 highest proportion of shares (i.e. ranging from 31.78% to 51.70%). These 10 companies are then analysed in detail using the self-constructed disclosure framework. The purpose is to understand the reasons why continuing CEOs, or top managers holding a large proportion of company shares, would reduce the goodwill balance by reporting goodwill impairment losses, merely for earnings smoothing purposes. The result reveals that four[78] companies reported goodwill impairment losses because of the characteristic of the goodwill - two companies impaired goodwill which arose from an apparent overpayment made at the time of acquisition, and a further two companies impaired goodwill immediately upon acquisition. These results suggest that managers of these four companies had

[78] The remaining six companies' reasons could not be identified by the researcher.

already decided on the amount of goodwill impairment losses to be reported. When their companies encountered a larger positive pre-write-off earnings surprise (i.e. existence of earnings smoothing – see Section 10.4.1.2 for detail), the managers take the opportunity to eliminate the goodwill by reporting the impairment loss.

The results discussed above, despite involving a small number of companies (10 companies), help contextualise one of the motives of Malaysian listed companies for engaging in earnings smoothing by reporting goodwill impairment losses. By undertaking different approaches in analysing accounting choices related to goodwill impairment, this thesis demonstrates that a wider picture in understanding accounting choices related to goodwill impairment exercised by Malaysian listed companies can be provided. Specifically, the disclosure study discovers characteristics of goodwill that are most likely to be impaired, such as goodwill that arose from an apparent overpayment made at the time of acquisition (see Section 7.3.2), or goodwill that has been overdue (in the case of companies that delayed reporting goodwill impairment losses - see Section 7.3.1). In addition, the measurement study reveals when companies would impair these types of goodwill (e.g. when there is larger pre-write-off earnings surprise).

In summary, three conclusions are reached from the empirical studies related to goodwill impairment conducted in this thesis. Firstly, the three empirical chapters have provided evidence of managers making accounting choices related to goodwill impairment that conflict with companies' economic factors. These choices are seen in terms of timing in reporting goodwill impairment losses on the income statement, companies' motives in measuring goodwill impairment losses, and companies' motives in recognising zero goodwill impairment when their market values are lower than the book values of their net assets for three consecutive years.

Secondly, based on the motives of companies for reporting goodwill impairment losses derived from the measurement study, it is found that the number of

companies which are inferred to exercise accounting choices related to goodwill impairment losses in Malaysia is not large. Table 10.2 groups the motives in reporting goodwill impairment losses for the total population of companies (i.e. 1498 firm-years) which implemented FRS 3 in the first three years of the standard taking effect. The table shows that, of the 1498 firm-years, 14% of these firm-years (192 companies or 210 firm-years) motives for reporting goodwill impairment losses provide evidence of managerial opportunism.

Table 10.2: Companies' motives in reporting goodwill impairment losses derived from the measurement study which examined the total population of companies from 2006/7 to 2008/7

Motives	No. of companies	No. of firm-years
1. Earnings smoothing only	85	97
2. Big bath reporting only	70	73
3. Change in CEO		
a. Change in CEO only	16	19
b. Change in CEO and Earnings smoothing	10	10
c. Change in CEO and Big bath reporting behaviour	11	11
Total	**192**	**210**
Total population of firm-years analysed		1498
Percentage of accounting choices related to goodwill impairment losses		**14%**

Thirdly, the accounting choices related to goodwill impairment are mostly exercised by different companies with different motives. For example, in the measurement study (see Table 10.2), the decisions of a group of companies in reporting goodwill impairment losses are driven by earnings smoothing, while another group of companies are influenced by an incidence of a change in CEO. This explanation is supported by the non-significant result of Pearson product-moment correlation between change in CEO and earnings smoothing variable, and the change in CEO and big bath reporting variable (result not reported). In only a few cases were the same companies found to have more than one motive for reporting goodwill impairment losses (e.g. 10 companies which have two motives - change in CEO and earnings smoothing shown in Table 10.2).

10.4 Research contributions

This section discusses the contributions of this thesis in relation to the research objectives and extant literature. The discussion is structured into four main areas, i.e. theoretical contributions (see Section 10.4.1), empirical contributions (see Section 10.4.2), contribution to research design (see Section 10.4.3), and its policy implications (see Section 10.4.4).

10.4.1 Contribution to theories of accounting choice (Objective 1)

The review of literature in Chapter 2 (see Section 2.2.2) has highlighted a number of studies analysing goodwill impairment after the impairment-only approach in accounting for goodwill. The impairment-only approach was required by the IASB and the US FASB as part of their joint initiative on accounting for business combinations (see Section 4.2). Two perspectives of accounting choice that have been applied by these studies are the contracting perspective, and the opportunistic behaviour perspective. The review has illustrated that the majority of these studies focused on listed companies in developed economies, mainly in the US (e.g. Beatty and Weber, 2006; Guler, 2007; Zang, 2008; Ramanna and Watts, 2012) and also in Canada (i.e. Lapointe-Antunes et al., 2008) and the UK (i.e. AbuGhazaleh et al., 2011). However, there is a lack of studies focusing on goodwill impairment by listed companies in developing economies.

The review of literature in Chapter 2 (see Section 2.3.3) has also revealed that listed companies in developed economies, such as the US and UK are found to have dispersed ownership whereas listed companies in developing economies, such as Malaysia are reported to have concentrated ownership (Leuz et al., 2003: 516-517). In listed companies with concentrated ownership, the literature review has highlighted that the nature of agency problem might differ from those with dispersed ownership, in the sense that there are two potential agency problems. Firstly, there could be fewer agency problems, which arise from the separation of ownership and management (Shleifer and Vishny, 1997: 754; Fan and Wong,

2002: 405). Secondly, when shareholders obtain a substantial portion of company shares, to the point at which they obtain an effective control of the company, the nature of the agency problem shifts (Fan and Wong, 2002: 405). Instead of a conflict of interest between managers and shareholders, the conflict is between controlling owners and minority shareholders (Fan and Wong, 2002: 405) (see Section 2.3.3). The potentially different nature of the agency problem might affect the applicability of both the contracting perspective and the opportunistic behaviour perspective (which rely on the agency theory model of Jensen and Meckling, 1976) in explaining the accounting choices related to goodwill impairment by companies with concentrated ownership.

The present thesis tests the contracting perspective and the opportunistic behaviour perspective in Malaysian listed companies with concentrated ownership, neither of which have been explored comprehensively in prior studies analysing goodwill impairment. In doing so, this thesis makes a theoretical contribution by providing support for the opportunistic behaviour perspective in explaining the measurement of goodwill impairment by Malaysian listed companies. Next, Sections 10.4.1.1 to 10.4.1.2 discuss the results of the contracting perspective and the opportunistic behaviour perspective respectively.

10.4.1.1 Contracting perspective

Because of the unavailability of data on management compensation plans, the only contracting perspective tested in this thesis is the debt hypothesis. In the context of goodwill impairment, the debt hypothesis suggests that companies which are close to violating their debt covenants are less likely to report goodwill impairment losses (see Section 5.5). In this thesis, due to an inability to investigate actual debt covenants (due to lack of data), debt ratio (leverage) has been employed as a proxy for companies' closeness to the debt covenant violations (see Section 5.5). The result shows that debt ratio is non-significant in nearly all of the regression models in explaining both the measurement and the recognition of goodwill impairment by Malaysian listed companies (see Sections

8.7 and 9.5.2). The non-significance of the variable is possibly because of the indirect proxy employed (see Section 10.5 for the limitations of the study). Thus, the present study could not provide evidence on the applicability of the contracting perspective, in particular, the debt hypothesis in explaining both the measurement and the recognition of goodwill impairment by Malaysian listed companies.

10.4.1.2 Opportunistic behaviour perspective

The development of hypotheses in Chapter 5 (see Section 5.6) noted that four variables have been employed in this thesis to test the opportunistic behaviour perspective, i.e. CEO tenure, change in CEO, big bath reporting, and earnings smoothing. In the measurement study, the last three variables are found statistically significant in the measurement of goodwill impairment by Malaysian listed companies (see Sections 8.8.1, 8.8.3, and 8.8.4). In the recognition study, all the four variables are found non-significant (see Section 9.5.3). The next paragraphs discuss the applicability of the opportunistic behaviour perspective, based on the statistically significant results of these three variables - change in CEO, big bath reporting, and earnings smoothing respectively.

Change in CEO attempts to capture the opportunistic behaviour of incoming CEOs in reporting goodwill impairment losses as soon as they join their new companies (see Section 5.6.1). To capture this behaviour, a dummy variable is created which is equal to one when there is a change in a CEO in the previous financial year or current financial year, and zero otherwise (see Appendix 1 of the thesis). The argument raised by prior studies (e.g. Riedl, 2004: 832; Francis, 2008: 628; AbuGhazaleh et al., 2011: 175) is that the newly appointed CEOs have the ability to attribute current losses to some aspect of the preceding CEO's poor management (see Section 5.6.1). This gives them the opportunity to take large asset write-offs and goodwill impairment losses as soon as joining new companies. Among the reporting incentives faced by the newly appointed CEOs are to reduce the benchmark against which their future performance will be evaluated, and to release future earnings from the losses, in the hope that this

might improve investors' perceptions of the companies' future performance (see Section 5.6.1).

In the present measurement study, the statistically significant positive association between change in CEO and the reporting of goodwill impairment losses shows that incoming CEOs reported higher goodwill impairment losses than the continuing CEOs (see Section 8.8.1). The conclusion reached is that, to the extent the economic factors control for the performance of the underlying economic values of the assets, change in CEO may capture additional incentives for the new top managers to expedite future charges. Therefore, similar to prior studies (i.e. Elliott and Shaw, 1988; Francis et al., 1996; Riedl, 2004), the result for the change in CEO provides support to an opportunistic behaviour perspective.

From an opportunistic behaviour perspective, both big bath reporting hypothesis and earnings smoothing hypothesis related to asset write-offs shared a similar concept, in that managers have the ability to reduce the pre-write-off earnings because of the larger pre-write-off earnings surprise experienced by the companies. This gives them the opportunity to report asset write-offs or goodwill impairment losses (Riedl, 2004: 832-833; AbuGhazaleh et al., 2011: 174-175). For the big bath hypothesis, larger pre-write-off earnings surprise refers to negative[79] pre-write-off earnings surprise (see Section 5.6.3) whereas for earnings smoothing hypothesis, it refers to positive[80] pre-write-off earnings surprise (see Section 5.6.4). Unlike change in CEO which emphasises the behaviour of incoming CEOs, prior studies of asset write-offs and goodwill impairment losses testing big bath hypothesis and earnings smoothing hypothesis do not differentiate between the behaviour of incoming CEOs and the existing CEOs.

[79] BATH is defined as a change in company's pre-write-off earnings from prior period to current period, divided by total assets at the end of prior period, when this change is below the median of non-zero negative values of this variable, and zero otherwise.

[80] SMOOTH is defined as a change in company pre-write-off earnings from prior period to current period, divided by total assets at the end of prior period, when this change is above the median of non-zero positive values of this variable, and zero otherwise.

With regard to big bath hypothesis, the statistically significant negative association between BATH and the reporting of goodwill impairment losses found in the present measurement study shows that the stronger the downward trend in companies' pre-write-off earnings, the higher the magnitude of goodwill impairment losses reported (see Section 8.8.3). The conclusion reached for the big bath reporting behaviour is that to the extent that change in pre-write-off earnings (one of the variables testing the economic factors - see Section 5.4.2.3) controls for the performance of the underlying economic values of the assets, BATH (i.e. change in pre-write-off earnings below the median of non-zero negative values) may capture an incremental effect relating to the big bath reporting incentives (see Section 8.8.3). Thus, similar to Riedl (2004: 833), the statistically significant result for BATH provides evidence of managerial opportunism in the measurement of goodwill impairment by Malaysian listed companies. It is noted that there is an alternative interpretation of this result provided by prior study (e.g. AbuGhazaleh et al., 2011: 194). As discussed in Section 5.6.3, the larger negative pre-write-off earnings surprise could also imply that managers are taking a big bath to reveal private information about the company's true value (AbuGhazaleh et al., 2011: 194). However, the tests conducted in the present measurement study do not distinguish between these two interpretations.

As for the earnings smoothing hypothesis, the statistically significant positive association between SMOOTH and the reporting of goodwill impairment losses found in the present measurement study shows that the stronger the upward trend in the pre-write-off earnings, the higher the magnitude of goodwill impairment losses reported (see Section 8.8.4). The conclusion reached for the earnings smoothing is that to the extent the change in pre-write-off earnings (a variable testing the economic factors - see Section 5.4.2.3) control for the performance of the underlying economic values of the assets, SMOOTH (i.e. change in pre-write-off earnings above the median of non-zero positive values) may capture an incremental effect relating to the earnings smoothing incentives. Hence, the statistically significant result for SMOOTH in the present study provides support for an opportunistic behaviour perspective, indicating that

managers of Malaysian listed companies make use of goodwill impairment losses as a tool to smooth earnings (see Section 8.8.4).

The result of the three variables testing the opportunistic behaviour perspective discussed above is consistent with those of prior studies investigating US (e.g. Francis et al., 1996: 125; Riedl, 2004: 843) and UK (i.e. AbuGhazaleh et al., 2011: 190) listed companies. Specifically, this result revealed that even though Malaysian listed companies have concentrated ownership, in that the five largest outside shareholders (OUTCON) hold on average 46.816% of company shares (see Section 8.9), an opportunistic behaviour perspective is still applicable in explaining the measurement of goodwill impairment. With regard to these three variables, the result suggests that Malaysian listed companies which are found to have concentrated ownership behave similarly to listed companies in developed economies, such as the US and UK which are documented to have dispersed ownership. This result implies that concentrated ownership of companies does not prevent managerial opportunism.

As discussed in Section 2.3.3, the nature of agency problem faced by listed companies with concentrated ownership might differ from those with dispersed ownership. That is, whether there is less agency problem arising from the separation of ownership and management (Shleifer and Vishny, 1997: 754), or whether there is different nature of agency conflict that have existed (i.e. a conflict between controlling owners and minority shareholders) (Fan and Wong, 2002: 405). Focusing on goodwill impairment reported by listed companies in Malaysia, the results of change in CEO, big bath reporting behaviour, and earnings smoothing activities suggest that with high outside ownership concentration, the opportunistic behaviour most probably occurs due to an agency conflict between the controlling shareholders and the minority shareholders.

Fan and Wong (2002: 405), in explaining the conflict between the controlling shareholders and the minority shareholders, seem to associate the controlling shareholders with the managers of the companies (see Section 2.3.3). However,

this is not the case for Malaysian listed companies. This is because on average, managers of Malaysian listed companies hold 10.189%[81] of shares (median 2.745%) (see Appendix 8.2 in Chapter 8). Moreover, the Pearson product moment-correlation shows a negative correlation between outside ownership concentration and managerial ownership (see Table 8.2 in Section 8.3.2), suggesting that as outside ownership concentration increases, managerial ownership decreases. For the Malaysian listed companies analysed in this thesis, the concentration of ownership is with shareholders outside of the companies[82].

Therefore, in the context of the measurement study examines in this thesis, the statistically significant results for change in CEO, big bath reporting variable, and earnings smoothing variable contribute to theories of accounting choice by suggesting that opportunistic behaviour occurs due to an agency conflict between controlling shareholders (shareholders outside of the companies) and the minority shareholders. Within this conflict, managers would possibly act on behalf of the controlling shareholders at the expense of the minority shareholders.

10.4.2 Empirical contributions

The empirical contributions of this research relate to providing new evidence on factors influencing managerial decisions on the measurement of goodwill impairment by Malaysian listed companies (see Sections 10.4.2.1 to 10.4.2.2).

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[81] This result is quite similar to Suphakasem (2008: 214) who reported the executive directors of Malaysian listed companies she analysed (for financial year ended 2004) hold on average 12.43% of the companies' shares. However, the result is lower than Ismail (2007: 131) and Mohd Ghazali (2004: 206) who documented mean executive director ownership of Malaysian listed companies they examined of 19.4% (for financial year ended 2001) and 21.42% (from 1996-2002) respectively. The lower percentage of shares owned by the executive directors reported in this thesis compared to these prior studies may be explained by the differences in the year of analysis and the categories of companies examined.

[82] Thus far, prior studies analysing ownership concentration of Malaysian listed companies (e.g. Mohd Ghazali, 2004; Astami and Tower, 2006; Suphakasem, 2008) do not differentiate between inside concentration and outside concentration. For examples, Mohd Ghazali (2004: 117) and Suphakasem (2008: 230) define ownership concentration as shares owned by the 10 largest shareholders; Astami and Tower (2006: 7) measure the ownership concentration as the 'percentage of the sum of all the ownership representing 10% or more of the total issued share capital'. Thus, the result of the present study could not be compared with these prior studies.

10.4.2.1 Managerial ownership (Objective 3)

The present thesis extends the idea of a non-monotonic relationship between managerial ownership and companies' performance, which has been popularised by Morck et al. (1988) into the field of goodwill impairment. The idea popularised by Morck et al. (1988) has also been extended by recent studies into other areas such as income smoothing, earnings management, and audit committee (see Section 5.7.1). Specifically, this thesis has analysed the non-monotonic relationship between managerial ownership and the reporting of goodwill impairment by Malaysian listed companies (see Section 5.7.1). Similar to Morck et al. (1988: 298), the non-monotonic relationship is analysed by segregating the managerial ownership into three categories: (i) MANOWN1 (0% to less than 5%), (ii) MANOWN2 (5% to less than 25%), and (iii) MANOWN3 (25% and more) (see Section 5.7.1).

The result of the measurement study of this thesis reveals that as the managerial ownership increases from 0% to less than 5% (in MANOWN1), lower goodwill impairment losses are reported (see Section 8.9.1). However, when the managerial ownership stands at 5% or more (i.e. in MANOWN2 as well as MANOWN3), managerial ownership has no influential role in the measurement of goodwill impairment by Malaysian listed companies. The statistically significant result for managerial ownership (from 0% to less than 5%) provides support to the incentives effect, in that, as managerial ownership increases from 0% to less than 5%, the incentives of managers becomes closely aligned with those of the shareholders. Because reporting goodwill impairment losses have an impact on companies' earnings, the managers might report lower goodwill impairment losses in order to portray companies' operating results in the most favourable manner to the shareholders (see Section 8.9.1 for detailed discussion of this finding).

The result discussed above makes an empirical contribution by providing new evidence that in Malaysian listed companies where executive directors collectively hold a small portion of shares (below 5%), the decisions to report

goodwill impairment is influenced, in a negative direction, by the level of shares owned. This result also highlights the need to incorporates managerial ownership (using a non-monotonic approach - see Section 5.7.1) in order to provide a more comprehensive model of accounting choices related to goodwill impairment.

10.4.2.2 Companies' pre-write-off earnings (Objective 3)

This thesis has also added to the literature of accounting choices related to goodwill impairment with regard to the definitions of companies' pre-write-off earnings. Previous studies of asset write-off and goodwill impairment have either employed the earnings of companies at one specific point in time (e.g. prior year earnings in AbuGhazaleh et al., 2011: 170, see Section 8.6.2.1), or employed a change in pre-write-off earnings from prior year to current year (e.g. Riedl, 2004: 829; Guler, 2007: 21 and 23, see Section 8.6.2.3). Instead of selecting one of these earnings, this thesis has employed both measures of earnings and tested them in separate random-effects tobit regression models.

By testing two different measures of earnings (i.e. earnings at one specific point in time, and change in pre-write-off earnings from prior year to current year), the measurement study of this thesis has improved on the previous studies (e.g. Riedl, 2004, and AbuGhazaleh et al., 2011). Hence, the measurement study has made an empirical contribution in terms of presenting new evidence on the relationship between companies' pre-write-off earnings and the reporting of goodwill impairment losses. The study has shown that companies are behaving differently with regard to goodwill impairment losses reported depending on their level of pre-write-off earnings (see Section 8.12.1). As current year pre-write-off earnings increase, lower goodwill impairment losses are reported. However, as the gap between the current year pre-write-off earnings and the prior year pre-write-off earnings is large[83], higher goodwill impairment losses are

[83] Large refers to BATH and SMOOTH. BATH is defined as change in pre-write-off earnings from prior year to current year, divided by total assets at the end of prior year, when this change is below the median of non-zero negative values of this variable, and zero otherwise. SMOOTH is defined as a change in pre-write-off earnings from prior year to current year, divided by total assets at the end of prior year, when this change is above the median of non-zero positive values of this variable, and zero otherwise.

reported. This finding corroborates the finding of McNichols and Wilson (1988: 4) who found that companies with extreme earnings (either unusually high or low[84]) chose income-decreasing accounting choice (in their case the discretionary component of the provision for bad-debts) (see Section 8.12.1).

10.4.3 Contributions to research design

Contributions to research design are discussed according to two aspects: a self-constructed disclosure framework (see Section 10.4.3.1), and the design of a research setting which aims to capture evidence of a recognition choice related to reporting zero goodwill impairment (see Section 10.4.3.2).

10.4.3.1 A self-constructed disclosure framework (Objective 2)

The disclosure study of this thesis (Chapter 7) has contributed to the research design by developing a disclosure framework (see Figure 6.2 in Section 6.5.2.2). Using the disclosure framework, the disclosure study makes an empirical contribution by identifying types of accounting choice related to goodwill impairment and providing evidence on the degree of discretion managers of Malaysian listed companies have in reporting goodwill impairment (see Section 7.4). By exploring (via annual reports) the types of accounting choice, this research has indirectly[85] responded to the suggestion offered by Fields et al. (2001: 290) for researchers of accounting choice studies 'to return to basics and use our expertise as accountants to measure multi-dimensional accounting choice directly via the financial statements'.

Future researchers could make use of the self-constructed disclosure framework to interpret their statistical findings related to goodwill impairment, which this thesis has attempted to do (see Section 8.12.2). In addition, future researchers

[84] One of the definitions of extreme earnings provided by McNichols and Wilson (1988: 13) is the comparison of the current year with prior year earnings which is deflated by total assets.

[85] It is indirect because Fields et al. (2001: 290) were discussing about the issue of multiple method choice.

could identify types of accounting choice related to goodwill impairment through the disclosure framework.

10.4.3.2 Research setting designed to capture evidence of a recognition choice related to reporting zero goodwill impairment (Objective 4)

The recognition study of this thesis (in Chapter 9) has contributed to the research design by constructing a research setting which aims to capture evidence of a recognition choice related to reporting zero goodwill impairment exercised by Malaysian listed companies in a situation where companies' market values are lower than the book values of the net assets for three consecutive years (see Section 9.2.1).

Testing of this setting has allowed the study to makes a contribution by identifying the motives of companies in recognising zero goodwill impairment, which has received limited attention by prior studies (see Section 2.2.2). Specifically, the recognition study has provided empirical evidence on the influence of economic factors (i.e. higher current year pre-write-off earnings, or higher change in pre-write-off earnings from prior year to current year, and lower change in operating cash flows from prior year to current year) on the recognition choice related to reporting zero goodwill impairment (see Section 9.6).

The recognition study has also provided new empirical evidence on the influence of outside ownership concentration on the recognition choice related to reporting zero goodwill impairment. The result shows that the higher the outside ownership concentrated, the more likely it is for the companies to exercise the recognition choice related to reporting zero goodwill impairment.

Information concerning the motives of companies for recognising zero goodwill impairment is useful to the relevant regulatory bodies overseeing financial reporting standards on goodwill in Malaysia, such as MASB, Malaysian Securities Commission, and auditors. This information will assist these bodies to take note

of companies' impairment tests of goodwill in order to identify whether these companies have left their goodwill on the balance sheet for a long time without any impairment losses reported.

10.4.4 Policy implications

One of the key findings of this research is that companies' disclosure related to discount rates and cash-generating-units (CGUs) is not encouraging. As noted in Section 8.2.2.2, more than half of the firm-years examined do not disclose information concerning CGUs and discount rates. IASB, in its Basis for Conclusion (IASB, 2006: IAS 36, Basis for Conclusions, BC198) (see Section 4.5), relied on companies' disclosure as a way of improving the reliability of the impairment test of goodwill. In the case of Malaysian listed companies, this thesis has provided empirical evidence that the actions of the IASB, and thus the MASB, in relying on disclosure have not yet been successful. Issues regarding companies' disclosure on CGUs and discount rates are also documented by the Financial Reporting Council (FRC) in the UK. The FRC in the UK (2008: 4) reports that even though all of the 32 UK listed companies which they have analysed disclosed information regarding an impairment testing of goodwill, many of these disclosures are generic in nature and 'inappropriately aggregated'. They consider such disclosures as providing little information to users of financial statement in understanding factors influencing valuation of goodwill, and in evaluating the estimation made by the management concerning the impairment test (FRC, 2008: 4).

Subsequent to the first phase of the implementation of IFRS 3 and IAS 36, which is the focus of this thesis, IASB has (through an annual improvement project) revised IAS 36 twice, in relation to an impairment test of goodwill. Firstly, in phase two of the IAS 36, issued on 22 May 2008 (see Figure 4.1 in Section 4.2), IASB revised the disclosure requirement for the recoverable amount of the CGUs, computed based on fair values less costs to sell (IASB, 2008: IAS 36, Improvements to IFRSs). Secondly, in the annual improvements for IAS 36, issued on 16 April 2009, the IASB amended the requirement for a CGU in accordance

with the definition of operating segment stated in paragraph 5 of IFRS 8 (IASB, 2009: IAS 36, Improvements to IFRSs). The conclusion for this thesis is that unless these improvements help improve disclosure related to goodwill impairment by companies in the near future, IASB and MASB will be unable to police the measurement rule via disclosure. This thesis suggests that, rather than relying on companies' disclosure as a way of improving the reliability of an impairment test of goodwill, it would be better for the IASB to implement a strong control mechanism (such as the subsequent cash flow test or the two-step impairment test as discussed in Section 4.5) within the standard itself.

10.5 Limitations of the study

This research project is subjected to at least two limitations.

Firstly, some variables had to be manually collected directly from annual reports, as these were not available in any database. These include variables testing discretion such as CGUs and discount rates, CEO tenure, change in CEO, managerial ownership, and outside ownership concentration. By relying on annual reports of companies, the data was constrained, not only by the availability of the annual reports, but also by the information disclosed in the annual reports themselves. This constraint is quite severe for variables testing the discretion related to CGUs and discount rates where more than 50% of the companies examined did not disclose the number of CGUs and discount rates employed in the estimation of the recoverable amount of value-in-use containing goodwill (see Appendix 8.2 – e.g. DISCRATE). The missing value analysis performed was an attempt to lessen this limitation and to provide evidence that the missing values of these variables occurred at random (see Section 8.2.2.2).

Secondly, data unavailability has hindered the researcher in conducting a thorough test of the contracting perspective. The bonus plan hypothesis is not tested in this research due to the lack of publicly available data on management compensation plans. In addition, testing of the debt hypothesis is limited to the use of leverage (DEBTRATIO) as a proxy for companies' closeness to their debt

covenant violations. Prior studies argued that leverage does not fully capture the default risk of debt (Lys, 1984; Fields et al., 2001; Dichev and Skinner, 2002) (see Section 2.3.1.2). Therefore, the test of the contracting perspective is inconclusive. That is, whether the debt hypothesis is not applicable for explaining the measurement of goodwill impairment by Malaysian listed companies, or whether the use of the noisy proxy variable (i.e. debt ratio) resulted in a low power test of the contracting perspective of accounting choice.

10.6 Suggestions for future research

A number of suggestions for future research emerge from this thesis.

Firstly, this study can be extended to other countries in developing economies, in particular, East Asian developing countries which are found to have concentrated ownership. This will improve an understanding of accounting choices related to goodwill impairment across these countries.

Secondly, this thesis has examined abilities and motives of companies for reporting goodwill impairment. The abilities are examined through the available discretion, i.e. CGUs and discount rates. The motives are captured through variables testing the contracting perspective and the opportunistic behaviour perspective. However, this thesis has not examined factors which may act as a monitoring mechanism to reduce the managerial opportunism. These include strong governance mechanisms, such as an independent board and the number of meetings held by the board of directors during the financial year. These factors represent another potentially interesting area for future research.

Thirdly, three aspects of the implementation decisions related to goodwill impairment have been examined in this thesis, i.e., disclosure, measurement, and recognition of goodwill impairment. To get a more comprehensive view of the implementation decisions, future research is suggested to explore the presentation choice related to goodwill impairment loss. Specifically, future work could analyse managers' presentation of goodwill impairment loss within

the financial statement, i.e., whether the manager disaggregate goodwill impairment loss as a separate line item on the face of the income statement, or aggregate the loss into another line item identified only via Notes to the Financial Statement. Under both presentation choices, goodwill impairment loss is deducted from the earnings of companies.

Finally, this study could not thoroughly test the contracting perspective of accounting choice because of the lack of data for the management compensation plan. To gather this data and hence test the contracting perspective extensively, it is recommended that future studies conduct a survey questionnaire, to ask whether such management compensation plans are being applied by Malaysian listed companies and the parameters employed for these plans.

Appendix 1 of the thesis: Summary of Hypotheses Formulated and Detailed Definitions of the Variables Employed

Note for Appendix 1:

This appendix presents a summary of all the hypotheses developed in Chapter 5. In this thesis, two types of motive for companies to report goodwill impairment are explored - companies' motives for reporting goodwill impairment losses, and companies' motives for reporting zero goodwill impairment. For this reason, the predicted sign, shown in Appendix 1 has two columns. A column labelled GWIL(IL) predicts companies' motives for reporting goodwill impairment losses; a column labelled GWIL(0) predicts companies' motives for reporting zero goodwill impairment.

Further, in Appendix 1, it is observed that there are hypotheses with a predicted sign which is labelled as '?'. The sign '?' denotes unspecified predicted sign, which occur either because of the inconclusive empirical evidences provided by prior studies, or no prior studies testing the variable. As an example, leverage (DEBTRATIO in H_7) has a predicted sign labelled as '?'. This is because of the mixed results documented by prior studies concerning the association between leverage and companies' decisions in reporting goodwill impairment losses. In addition, DISCRATE, which refers to the percentage of discount rates disclosed by companies in their annual reported (see H_{15A}) has a predicted sign labelled as '?'. Nonetheless in this case, it is because there is no published works testing the relationship between discount rates and companies' decisions in reporting goodwill impairment losses. Detailed discussion of the predicted sign for each of the hypotheses is carried out in Sections 5.4 to 5.9.

Appendix 1 of the thesis: Summary of hypotheses formulated and the detailed definitions of the variables employed

Variables	Potential factors	Predicted sign (Alternative hypothesis)		Definition of the variables	Data sources	Main studies refer (Notes)
		GWIL(IL)	GWIL(0)			
GWIL - Dependent variable for the Measurement study (see Table 5.1 in Section 5.2)				The magnitude of goodwill impairment losses, divided by prior year total assets (including goodwill), and zero otherwise reported on the income statement.	Datastream • Goodwill impairment losses – WC18225 • Total assets - WC02999	AbuGhazaleh et al. (2011: 178); Lapointe-Antunes et al. (2008: 43).
GWIL(0,1) - Dependent variable for the Recognition study (see Table 5.1 in Section 5.2)				A dichotomous variable, equal to one when companies are considered as exercising a recognition choice related to reporting zero goodwill impairment, and zero otherwise (see Table 5.1).		

Appendix 1 of the thesis (continue): Summary of hypotheses formulated and the detailed definitions of the variables employed

Variables		Potential factors	Predicted sign (Alternative hypothesis)		Definition of the variables	Data sources	Main studies refer (Notes)
			GWIL(IL)	GWIL(0)			
H_1	ΔSALES - Change in sales (see Section 5.4.1)	Economic factors	-	+	Change in sales for company *i* from prior period (t-1) to current period (t), divided by total assets at the end of prior period (t-1). $= \frac{(SALES_t - SALES_{t-1})}{TOTAL\ ASSETS_{t-1}}$ For the measurement study, the variable is transformed into Log(ΔSALES+1) (see Sections 5.4.1 and 8.2.2.1).	Datastream • Net sales - WC01001 • Total assets - WC02999	AbuGhazaleh et al. (2011: 178)
H_{2A}	$EARNINGS_{Prior}$ - Prior year earnings (see Section 5.4.2.1)	Economic factors	-	+	Prior year earnings divided by total assets at the end of prior period (t-1). $= \frac{EARNINGS_{t-1}}{TOTAL\ ASSETS_{t-1}}$	Datastream • Earnings = Net income before extraordinary items or preferred dividends - WC01551 • Total assets - WC02999	AbuGhazaleh et al. (2011: 178). - Sensitivity analysis is carried out by replacing $EARNINGS_{Prior}$ with $EARNINGS_{PreGWILprior}$ (see Section 8.5.2.3).

Appendix 1 of the thesis (continue): Summary of hypotheses formulated and the detailed definitions of the variables employed

Variables		Potential factors	Predicted sign (Alternative hypothesis)		Definition of the variables	Data sources	Main studies refer (Notes)
			GWIL(IL)	GWIL(0)			
H_{2B}	$EARNINGS_{PreGWILCurrent}$ - Current year pre-write-off earnings (see Section 5.4.2.2)	Economic factors	-	+	Current year pre-write-off earnings divided by total assets at the end of prior period (t-1). $=\frac{EARNINGS_t + GWIL(IL)}{TOTAL\ ASSETS_{t-1}}$ For the recognition study, the variable is transformed into Log10(0.4-$EARNINGS_{PreGWILCurrent}$) (see Section 9.2.2).	Datastream • Earnings = Net income before extraordinary items or preferred dividends - WC01551 • Goodwill impairment losses – WC18225 • Total assets - WC02999	-
H_3	$\Delta EARNINGS_{preGWIL}$ - Change in pre-write-off earnings (see Section 5.4.2.3)	Economic factors	-	+	Change in company *i*'s pre-write-off earnings from prior period (t-1) to current period (t), divided by total assets at the end of prior period (t-1). $= [(EARNINGS_t + GWIL(IL)_t) - (EARNINGS_{t-1} + GWIL(IL)_{t-1})]/TOTAL\ ASSETS_{t-1}$	Datastream • Earnings = Net income before extraordinary items or preferred dividends - WC01551 • Goodwill impairment losses – WC18225 • Total assets - WC02999	Riedl (2004: 829)
H_4	ΔOCF - Change in operating cash flows (see Section 5.4.3)	Economic factors	-	+	Change in operating cash flows for company *i* from prior period (t-1) to current period (t), divided by total assets at the end of prior period (t-1) $= \frac{(OCF_t - OCF_{t-1})}{TOTAL\ ASSETS_{t-1}}$	Datastream • Operating cash flows - WC04860 • Total assets - WC02999	AbuGhazaleh et al. (2011: 178); Riedl (2004: 829)

Appendix 1 of the thesis (continue): Summary of hypotheses formulated and the detailed definitions of the variables employed

Variables		Potential factors	Predicted sign (Alternative hypothesis)		Definition of the variables	Data sources	Main studies refer (Notes)
			GWIL(IL)	GWIL(0)			
H_5	BTM - Book-to-market ratio (see Section 5.4.4)	Economic factors	+	-	Company *i*'s book value of equity divided by market value of equity at the end of current period (t).	Datastream • Book value of equity = Total shareholders' equity (WC03995) less Preferred stock (WC03451) • Market value of equity – WC08001.	AbuGhazaleh et al. (2011: 178)
H_6	GWB - Relative size of goodwill balance (see Section 5.4.5)	Economic factors	+	-	Company *i*'s opening carrying value of goodwill in the current year divided by total assets at the end of prior period (t-1). = Opening goodwill balance$_t$/TOTAL ASSETS $_{t-1}$	Datastream • Goodwill balance – WC18280 • Total assets - WC02999	AbuGhazaleh et al. (2011: 178)
H_7	DEBTRATIO - Leverage (see Section 5.5)	Contracting perspective	?	?	Company *i*'s total debts at the end of prior year (t-1), divided by total assets at the end of prior year (t-1). = $\frac{\text{TOTAL DEBTS}_{t-1}}{\text{TOTAL ASSETS}_{t-1}}$	Datastream • Total debts - WC03255 • Total assets - WC02999	AbuGhazaleh et al. (2011: 178); Zang (2008: 48).

Appendix 1 of the thesis (continue): Summary of hypotheses formulated and the detailed definitions of the variables employed

Variables		Potential factors	Predicted sign (Alternative hypothesis)		Definition of the variables	Data sources	Main studies refer (Notes)
			GWIL(IL)	GWIL(0)			
H_8	$\Delta CEO_{Current/prior}$ - Change in CEO in the previous year or the current year (see Section 5.6.1)	Opportunistic behaviour perspective	+	-	Change in CEO is said to occur when a company experiences a change in CEO in the previous financial year (t-1) or the current financial year (t). It is measured as a dichotomous variable, equal to one if company *i* experienced the CEO change, and zero otherwise.	Annual reports	AbuGhazaleh et al. (2011: 178) - Sensitivity analysis is conducted for an alternative definition of ΔCEO (see Section 8.5.2.1).
H_9	CEOTENURE - CEO tenure (see Section 5.6.2)	Opportunistic behaviour perspective	-	+	Number of years that the CEO has held the position.	Annual reports	Beatty and Weber (2006: 274); Ramanna and Watts (2012).
H_{10}	BATH - Big bath reporting (see Section 5.6.3)	Opportunistic behaviour perspective	-	?	Change in company *i*'s pre-write-off earnings from prior period (*t* - 1) to current period (*t*), divided by total assets at the end of prior period (*t* -1), when this change is below the median of non-zero negative values of this variable, and zero otherwise.	Datastream • Earnings = Net income before extraordinary items or preferred dividends - WC01551 • Goodwill impairment loss - WC18225 • Total assets - WC02999	AbuGhazaleh et al. (2011: 178); Riedl (2004: 829)

Appendix 1 of the thesis (continue): Summary of hypotheses formulated and the detailed definitions of the variables employed

Variables	Potential factors	Predicted sign (Alternative hypothesis)		Definition of the variables	Data sources	Main studies refer (Notes)
		GWIL(IL)	GWIL(0)			
H_{11} SMOOTH - Earnings smoothing (see Section 5.6.4)	Opportunistic behaviour perspective	+	?	Change in company *i*'s pre-write-off earnings from prior period (*t* -1) to current period (*t*), divided by total assets at the end of prior period (*t* -1), when this change is above the median of non-zero positive values of this variable, and zero otherwise.	Datastream • Earnings = Net income before extraordinary items or preferred dividends - WC01551 • GWIL(IL) - WC18225 • Total assets - WC02999	Riedl (2004: 829); AbuGhazaleh et al. (2011: 178);
H_{12A} $MANOWN_{Linear}$ - Managerial ownership (see Section 5.7.1)	Ownership structures - Linear relationship	?	?	Number of ordinary shares held directly by executive directors, divided by total number of issued and paid up ordinary shares.	Annual report	- Ismail and Weetman (2007: 521). - Sensitivity analysis is conducted for $MANOWN_{Linear}$ (see Section 8.5.2.2).

Appendix 1 of the thesis (continue): Summary of hypotheses formulated and the detailed definitions of the variables employed

Variables		Potential factors	Predicted sign (Alternative hypothesis)		Definition of the variables	Data sources	Main studies refer (Notes)
			GWIL(IL)	GWIL(0)			
H_{12B}	$MANOWN_{Non-monotonic}$ - Managerial ownership (see Section 5.7.1)	Ownership structures - Non-monotonic relationship	?	?	Following $MANOWN_{Linear}$ from H_{12A} , the non-monotonic relationship is measured as follows: **MANOWN1** • board ownership if board ownership < 0.05 • 0.05 if board ownership ≥ 0.05 **MANOWN2** • 0 if board ownership < 0.05 • board ownership minus 0.05 if 0.05≤board ownership< 0.25 • 0.20 if board ownership ≥ 0.25 **MANOWN3** • 0 if board ownership < 0.25 • board ownership minus 0.25 if board ownership ≥ 0.25		- Morck et al. (1988: 298); McConnell and Servaes (1990: 607); adapted by Chau and Leung (2006: 7); Chau and Gray (2010: 98). - Sensitivity analysis is conducted for $MANOWN_{Non-monotonic}$ (see Section 8.5.2.2).

Appendix 1 of the thesis (continue): Summary of hypotheses formulated and the detailed definitions of the variables employed

Variables	Potential factors	Predicted sign (Alternative hypothesis)		Definition of the variables	Data sources	Main studies refer (Notes)
		GWIL(IL)	GWIL(0)			
H_{13} OUTCON - Outside ownership concentration (see Section 5.7.2)	Ownership structures	?	?	Number of ordinary shares held by outsiders[86] with the five largest claims, divided by the total number of issued and paid up ordinary shares.	Annual report	Niehaus (1989: 277)
H_{14A} CGU_{01} - Cash-generating units containing goodwill (see Section 5.8.1)	Discretion available in performing an impairment test of goodwill	?	?	A dichotomous variable, equal to one if company *i* has more than one CGUs at the end of the current year (*t*), and zero otherwise.	Annual reports	AbuGhazaleh et al. (2011: 178)
H_{14B} $CGU_{continuous}$ - Cash-generating units containing goodwill (see Section 5.8.1)	Discretion available in performing an impairment test of goodwill	?	?	The actual number of CGUs containing goodwill disclosed in the annual reports by Malaysian listed companies at the end of the current year (t).	Annual reports	In a regression model that is separate from CGU_{01} (as in H_{14A})
H_{15A} DISCRATE - Discount rates (% disclosed) (see Section 5.8.2.1)	Discretion available in performing an impairment test of goodwill	?	?	The percentage of discount rate employed by companies in estimating the recoverable amount of CGUs containing goodwill which is disclosed in the annual reports at the end of the current year (t).	Annual reports	

[86] Following Haniffa and Hudaib (2006: 1042), outside shareholders refer to institutions, blockholders, and other individuals outside the company (see Section 5.7.2 for detail).

Appendix 1 of the thesis (continue): Summary of hypotheses formulated and the detailed definitions of the variables employed

Variables		Potential factors	Predicted sign (Alternative hypothesis)		Definition of the variables	Data sources	Main studies refer (Notes)
			GWIL(IL)	GWIL(0)			
H_{15B}	DISCMULTIPLE - Application of a single or multiple discount rates (see Section 5.8.2.2)	Discretion available in performing an impairment test of goodwill	?	?	A dichotomous variable, equal to one if a company applies multiple discount rates, zero if the company applies a single discount rate at the end of the current year (t).	Annual reports	
H_{15C}	$DISCRATE_{Disclosed/Not}$ - Discount rates - Disclosed/Not disclosed (see Section 5.8.2.3)	Discretion available in performing an impairment test of goodwill	?	?	A dichotomous variable, equal to one if a company do not disclose the discount rate, and zero otherwise.	Annual reports	
H_{16}	SIZE – Size of company (see Section 5.9.1)	Control variables	?	?	Natural logarithm of total assets at the end of prior period (*t*-1). = Ln(TOTAL $ASSETS_{t-1}$)	Datastream • Total assets - WC02999	AbuGhazaleh et al. (2011: 179); Lapointe-Antunes et al. (2008: 44).

Appendix 1 of the thesis (continue): Summary of hypotheses formulated and the detailed definitions of the variables employed

Variables		Potential factors	Predicted sign (Alternative hypothesis)		Definition of the variables	Data sources	Main studies refer (Notes)
			GWIL(IL)	GWIL(0)			
H_{17}	INDUSTRYG5 - Industry dummy (see Section 5.9.2)	Control variables	?	?	A dummy variable across 10 industry categories based on Datastream Industrial classification level two. - Because of the lack of data in five industries, the industry group is reduced to five (see Section 8.2.2.3). - The baseline for the INDUSTRYG5 is Industrial and basic materials.	Datastream • Industry classification - INDM2	AbuGhazaleh et al. (2011: 195); Zang (2008: 48).
H_{18}	YEND - Financial-year-end dummy [see Section 5.9.3]	Control variables	?	?	A dummy variable across three financial year-end categories (i.e. 2006, 2007, and 2008) based on Datastream classification. - The baseline for the YEND is financial year-ended 2006.	Datastream • Fiscal year - WC05350	AbuGhazaleh et al. (2011: 179)
H_{19}	ADD - Additions to goodwill (see Section 5.9.4)	Control variables	+	-	A dichotomous variable, equal to one if a company has additions to its goodwill during the financial year, and zero if there is no addition.	Datastream • Goodwill balance - WC18280	AbuGhazaleh et al. (2011: 179)

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